Appendix J Comments on the Draft EIS

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COOPERATING AGENCY AND EPA COMMENTS

INDEX BY COMMENT ID NUMBER

INDEX BY NAME OF COOPERATING AGENCY

Arizona Department of Transportation

Intermodal Transportation Division
206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janice K. Brewer
Governor

John S. Halikowski
Director

May 23, 2012

Jennifer Toth
State Engineer

To Whom It May Concern,
Here are some guides to the ADOT Permitting Process:
Permitting requirements will include, at a minimum:

1

1. Permit Applications. Applications could be obtained in person or at the following website: http://www.azdot.gov/Highways/MaintPermits/PDF/EncroachmentPermit.pdf

2. Certificates of Insurance covering the Owner of the facility and their prime contractor and naming ADOT and the State as additional insured's per the following matrix.

ADOT Permits Insurance Matrix

TYPE OF INSURANCE COVERAGE AND ENDORSEMENTS OR LANGUAGE REQUIRED IN THE CERTIFICATE OF INSURANCE*	ENCROACHMENT PERMIT MINIMUM LIMITS OF INSURANCE**	FILM/SPECIAL EVENT PERMIT MINIMUM LIMITS OF INSURANCE**
Commercial General Liability (1) (Occurrence Form)		
General Aggregate	2,000,000	5,000,000
Bodily Injury/Property Damage	1,000,000	5,000,000
Products/Completed Ops.	1,000,000	1,000,000
Personal/Adv. Injury	1,000,000	1,000,000
XCU****	1,000,000	1,000,000
Fire Legal	50,000	50,000
Business Auto-Any Auto (2)	1,000,000	1,000,000
Workers' Compensation (3) Employers Liability	1,000,000	1,000,000
Additional Insured (4)		
General Liability	Yes	Yes
Auto Liability	Yes	Yes
Waiver of Subrogation (5)		
General Liability	Yes	Yes
Workers' Compensation	Yes	Yes
Auto Liability	Yes	Yes
Primary Endorsement (6)	Yes	Yes

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Yes = coverage/language required.
* Self-insurance will be evaluated by ADOT Risk Management and may or may not be approved. Approval of self-insurance will depend upon a number of factors including, but not limited to, the financial solvency of the subject company and its insurance fund and an evaluation of its ability to pay claims. A letter of Self-insurance will be required.
** Insurance is to be placed with duly licensed or approved non-admitted insurer in the state of Arizona with an "A.M. Best" rating of not less than A- VII. The State of Arizona in no way warrants that the above-required minimum insurer rating is sufficient to protect the permittee or contractor from potential insurer insolvency.
*** Any excess insurance policies provided to meet the minimum limits shall be "following form" coverage.
**** XCU=Explosion, Collapse and Underground Damage. This term is used in Business Liability Insurance to indicate that certain types of construction work involve these hazards.

1. ADOT reserves the right to require an increase or allow a decrease in insurance limits or coverage based on the risks and financial exposure arising out of the event or activity proposed in the permit application or contract. Any excess insurance policies provided to meet the full limits shall be "following form" coverage. Additional insured shall be covered to the full limits of liability purchases by the permittee or contractor, even if those limits of liability are in excess of those required by this permit.
2. Auto Liability is combined single limit (CSL) coverage required if the permit applicant or contractor will own, lease hire or borrow a vehicle. An EXCEPTION applies of volunteers drive personally owned vehicles (which must by law be insured).
3. Workers compensation coverage is required for special events if any paid members of the insured's organization will be acting in the course or scope of employment for purposes of the event. It the event is staffed only by volunteers, this coverage can be waived.
4. The policy shall be endorsed to include the following additional insured language and the language must be shown on the certificate of insurance: "The State of Arizona and it's departments, agencies, boards, commissions, universities and its officer, officials, agents and employees shall be named as additional insured's with respect to liability arising out of the activities performed by or on behalf of the permittee or contractor."
5. Policy shall contain a waiver of subrogation (applicable to all lines of coverage) in favor of the State of Arizona, its dependents, agencies, boards, commissions, universities and its officers, officials, agents and employees for losses arising fro work performed by or on behalf of the Permittee/Contractor.
6. The permittee's or the contractor's insurance coverage shall be primary with respect to all other available sources.

3. Plans depicting the work to be done in ADOT right of way showing the information listed in Section 2.3.16 of the Utility Accommodation Policy. This could be found at: http://www.azdot.gov/Highways/utilities/pdf/guide_a.pdf , here is a copy:

2.3.16. REQUEST FOR PERMITS - Request for permits shall include the following items before a request will be processed:
2.3.16.1. Highway right-of-way lines;

2.3.16.2. Highway controlled access lines;

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2.3.16.3. Highway center line;
2.3.16.4. Ties from new facilities to Highway center line, stationing and mileposts;
2.3.16.5. Minimum clearance above finished roadway surface or structures for proposed aerial lines;
2.3.16.6. Type, size, number and voltage of conductors;
2.3.16.7. The size, class, grade and wall thickness of conduit, amount of cover as described in Section 2.1.9 type of backfill material, voltage and operating pressure if applicable, of underground lines;
2.3.16.8. The size of cables and number of pairs for communication lines;
2.3.16.9. Plan and profile drawings for all conduit systems crossing controlled access highways
Any change to the design, location or construction of an approved permit's plans will require ADOT approval prior to the change taking place.

4. Traffic Control Plans (when applicable): Traffic Control Plans will have to be approved by ADOT.

5. A plan to mitigate environmental disturbances (when applicable).

6. Tucson District Permits Office information:
Address:
1221 S. 2nd Avenue
Tucson, Arizona 85713-1602
Phone: 520.388.4238 Fax: 520.388.4222
http://www.azdot.gov/highways/districts/tucson/Permits.asp

7. Safford District Permits Office Information:
Address:
2082 US Hwy 70
Safford, AZ. 85546
Phone: 928.432.4900 Fax: 928.428.7523
http://www.azdot.gov/highways/districts/Safford/Permits.asp

ADOT URR Website http://www.azdot.gov/Highways/Utilities/index.asp

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SunZia Southwest
TRANSMISSION PROJECT

COMMENT FORM

U.S. Department of Interior
Bureau of Land Management
New Mexico State Office

RECEIVED
JUL 26 2012

Draft Environmental Impact Statement and Resource Management Plan Amendments (May 2012)

Paul R. David
NAME
2082 E. Highway 70
ADDRESS
Safford, AZ 85546
CITY STATE ZIP

Arizona Dept. Of Transportation
Organization (if applicable)
Add to mailing list ■ Yes ☐ No
Withhold personal information* ☐ Yes ■ No
Receive notification of EIS availability? ■ Yes ☐ No

COMMENTS:

I attended the June 11, 2012 public meeting in Safford, Arizona. I understand that the 40 square miles (25,700 acres) required for the power line installation will be unfenced which will allow public access and not interfere with wildlife crossings. As a transportation engineer from ADOT I would prefer strongly that the Route Group 4 Subroute 4A not be selected as it will interfere with an alternate alignment of US 191 which would travel along the foothills of Mt. Graham from MP 110.4 to 118.4.

Several years ago ADOT initiated a study to realign I-10 to bypass Phoenix and Tucson. During the Safford and Benson public meetings, there was overwhelming opposition to locating an alternate I-10 route in the Aravaipa Canyon (Group 4 Subroute 4B) and the San Pedro Valley (4C1, 4C2a, 4C2b and 4C2c), both which are riparian areas that are heavily populated with wildlife. I support utilizing the interstate corridor for locating the majority of the transmission lines.

Thanks for the opportunity to comment on this proposed project. Paul R. David, Professional Engineer

Attach additional pages, if needed.

SEND COMMENTS TO:
SunZia Southwest Transmission Project | c/o EPG, Inc. | 4141 N. 32nd Street, Suite 102 | Phoenix, AZ 85018

*Copies of comments will be available for public review. Individuals requesting their personal information be withheld from public review or from disclosure under the Freedom of Information Act must check "YES" in the appropriate box. Such requests will be honored to the extent allowed by law.

1589

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

July 24, 2012

Jesse Juen
State Director
Bureau of Land Management
New Mexico State Office
P.O. Box 27115
Santa Fe, NM 87502-0115

Re: SunZia Southwest Transmission Project

Dear Mr. Juen:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality Regulations (CEQ) for Implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, and the Region 9 office in San Francisco, California, have completed their reviews of the Draft Environmental Impact Statement (DEIS) and Resource Management Plan Amendments for the SunZia Transmission Project. EPA Region 6 is the lead reviewer with EPA Region 9 participating as an associate reviewer. The Bureau of Land Management (BLM) is the lead Federal agency responsible for NEPA compliance for this proposed action. The DEIS also includes the analysis of proposed and alternative BLM resource management plan amendments.

SunZia Southwest Transmission Project, as proposed by SunZia Trsmission, LLC, consists of constructing and operating two new single-circuit overhead 500-kilovolt transmission lines operating at a new substation in Lincoln County, New Mexico, and terminating at the Pinal Central Substation in Pinal County, Arizona. The transmission route alternatives would pass through Socorro, Sierra, Luna, Grant, and Hildalgo counties in New Mexico; and Cochise, Greenlee, Graham, and Pima counties in Arizona. The proposed transmission line route alternatives would range between approximately 460 and 530 miles in length, and would require right-of-way, crossing approximately 163 to 205 miles of BLM lands in Arizona and New Mexico. The remainder of the route would cross lands owned by state, private, or other entities.

EPA rates the DEIS as "**EC-2,**" i.e., EPA has "**Environmental Concerns and Request Additional Information in the FEIS**". The EPA's Rating System Criteria can be found here: http://www.epa.gov/oecaerth/nepa/comments/ratings.html. Our enclosed detailed comments are offered to complement and to more fully insure compliance with the requirements of NEPA and the Council on Environmental Quality (CEQ) regulations. EPA's comments are offered on identification of aquatic resources, minimization of impacts, air quality, and avian impacts. EPA asks that these comments be addressed and responded to in the FEIS.

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Our classification will be published on the EPA website, www.epa.gov, according to our responsibility under Section 309 of the Clean Air Act to inform the public of our views on proposed Federal actions. If you have any questions, please contact Mike Jansky of my staff at (214) 665-7451 or by e-mail at jansky.michael@epa.gov for assistance.

EPA appreciates the opportunity to review the DEIS. Please send our office two copies of the FEIS when it is sent to the Office of Federal Activities, EPA (Mail Code 2252A), Ariel Rios Federal Building, 1200 Pennsylvania Ave, N.W., Washington, D.C. 20004. You may now electronically file you EIS using our *e-NEPA Electronic Filing Pilot* by linking to EPA's web site at http://www.epa.gov/compliance/nepa/submiteis/index.html.

Sincerely yours,

Debra A. Griffin
Associate Director
Compliance Assurance
and Enforcement Division

Enclosure

RECEIVED
B.L.M. -MAIL ROOM
2012 JUL 30 AM 10: 19
STATE OFFICE
SANTA FE, NEW MEXICO

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DETAILED COMMENTS
ON THE
BUREAU OF LAND MANAGEMENT (BLM)
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
FOR THE PROPOSED
SUNZIA SOUTHWEST TRANSMISSION PROJECT
ARIZONA AND NEW MEXICO

Background

SunZia Southwest Transmission Project, as proposed by SunZia Transmission, LLC, consists of constructing and operating two new single-circuit overhead 500-kilovolt transmission lines operating at a new substation in Lincoln County, New Mexico, and terminating at the Pinal Central Substation in Pinal County, Arizona. The transmission route alternatives would pass through Socorro, Sierra, Luna, Grant, and Hildalgo counties in New Mexico; and Cochise, Greenlee, Graham, and Pima counties in Arizona. The proposed transmission line route alternatives would range between approximately 460 and 530 miles in length, and would require right-of-way, crossing approximately 163 to 205 miles of BLM lands in Arizona and New Mexico. The remainder of the route would cross lands owned by state, private, or other entities.

Impacts to Aquatic Resources

Regarding the identification of aquatic resources, the limited information within the DEIS makes it difficult to determine the scope of impacts to streams, wetlands, springs, and open waters from each alternative. The DEIS documents aquatic resources within the study area and states the need for numerous perennial and intermittent stream crossings, as well as wetland crossings, but the potential impacts to these resources will vary widely depending on the activity type and construction methods used. In addition, the DEIS does not identify or quantify any ephemeral streams that may be crossed or impacted by the project alternatives. In some cases, ephemeral streams may be determined to be jurisdictional by the U.S. Army Corps of Engineers (Corps) and would require Clean Water Act (CWA) Section 404 authorization. EPA recognizes and appreciates that the Corps is participating with BLM as a Cooperating Agency in the development of this EIS and would be responsible for ensuring the appropriate CWA Section 404 authorization would be provided for any unavoidable impacts to jurisdictional aquatic resources.

Recommendations:

1

- BLM should work with the Corps to identify and quantify in the FEIS, to the maximum extent practicable, the potentially jurisdictional aquatic resources within each alternative, as well as a reasonable estimate of the anticipated temporary and permanent impacts, by habitat type.

1589	Response to Comment
1	Estimates of affected jurisdictional waters have been provided in the FEIS, in Section 4.5.3 for the project alternatives.

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Minimization and Mitigation of Unavoidable Impacts

Pursuant to the CWA Section 404(b)(1) Guidelines (Guidelines), mitigation of project impacts begins with the avoidance and minimization of direct, indirect, and cumulative impacts to the aquatic ecosystem, followed by compensatory mitigation for unavoidable impacts. With projects such as transmission lines, it is EPA's experience that there are typically a number of opportunities to avoid and minimize impacts to streams through sensitive design elements such as the placement of towers above the ordinary high water mark, and minimization of fill material discharged for the construction footprint. Additional avoidance and minimization alternatives should be explored for associated project features, such as minimizing road footprints, bridging and the use of at-grade crossings. Minimization measures such as these may enable many areas of the project to qualify for CWA Section 404 authorization under a general permit, such as Nationwide Permit 12 (Utility Lines).

Pursuant to the Guidelines, compensation must be provided for unavoidable impacts to jurisdictional aquatic resources, including ephemeral streams. This compensation is typically provided through an approved mitigation plan that proposes actions to restore or enhance aquatic resources within the watershed. Given the large geographic scope and quantity of potential impacts, EPA believes there are significant opportunities to develop an overall compensatory mitigation plan for the entire project, or individual project components, which will maximize the likelihood of mitigation success and offset the loss of ecologic functions.

Recommendations:

2

- BLM should work with the Corps to develop and identify in the FEIS a conceptual compensatory mitigation plan that describes how the preferred alternative's impacts would be offset. This plan should take into consideration the likelihood of mitigation project sustainability, watershed needs, aquatic resource types impacted, and the most suitable methods (i.e., restoration or enhancement), in order to compensate for the project as a whole.

Air Quality

Mitigation Measures

The DEIS indicates that the proposed route groups in Arizona would cross the Rillito PM_{10} nonattainment area, the San Manuel SO_2 maintenance area, and the Tucson/Pima County CO maintenance area. Although the total estimated emissions were determined to be "below the de minimus levels (100 tons per year of the pollutant for which the area is nonattainment or maintenance) for all three nonattainment and maintenance areas" (p. 4-20), they should still be mitigated to the greatest possible extent.

3

In order to further reduce potential air quality impacts, the responsible agencies should also include a Construction Emissions Mitigation Plan and adopt this plan in the Record of

1589	Response to Comment
2	BLM will work with the USACE to identify acceptable and appropriate mitigation to aquatic resource impacts.
3	Standard mitigation measure ST-20 regarding dust control plans have been identified in the DEIS. Specific dust control mitigation measures will be provided in Appendix A6 of the Final POD, to include EPA recommendations.

3

Decision (ROD). In addition to measures included in the DEIS and all applicable local, state, or federal requirements, the EPA recommends that the following mitigation measures be included in the Construction Emissions Mitigation Plan in order to reduce impacts associated with emissions of PM, NOx, ROGs and other toxics from construction-related activities:

Recommendations:

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate at active and inactive sites during workdays, weekends, holidays, and windy conditions;
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and
- Prevent spillage when hauling material and operating non-earthmoving equipment and limit speeds to 15 miles per hour. Limit speed of earth-moving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Plan construction scheduling to minimize vehicle trips;
- Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections;
- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed;
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal[1] or State Standards[2]. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible[3];

[1] EPA's website for nonroad mobile sources is http://www.epa.gov/nonroad/.

[2] For ARB emissions standards, see: http://www.arb.ca.gov/msprog/offroad/offroad.htm.

[3] Diesel engines < 25 hp rated power started phasing in Tier 4 Model Years in 2008. Larger Tier 4 diesel engines will be phased in depending on the rated power (e.g., 25 hp - <75 hp: 2013; 75 hp - < 175 hp: 2012-2013; 175 hp - < 750 hp: 2011 - 2013; and ≥ 750 hp 2011- 2015).

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- Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using EPA-verified particulate traps, oxidation catalysts and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site; and
- Consider alternative fuels such as natural gas and electricity (plug-in or battery).

Administrative controls:

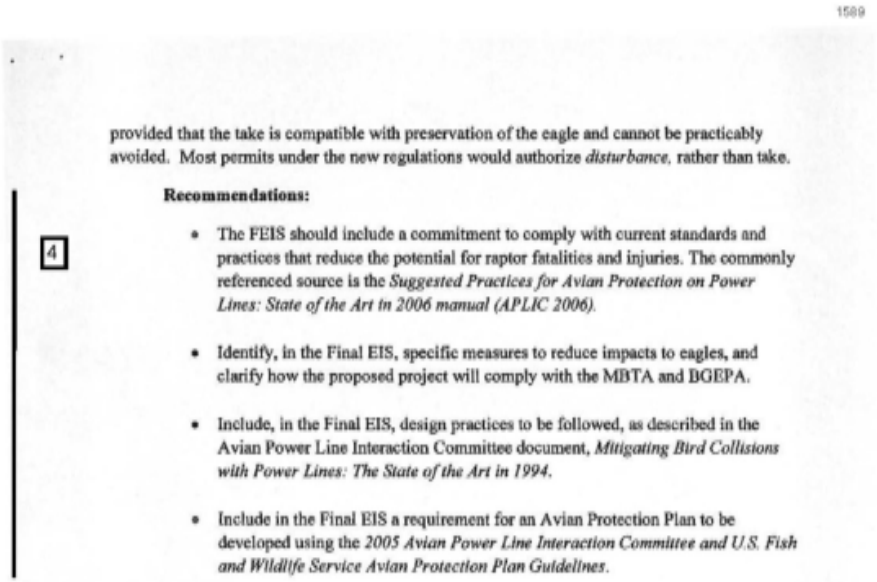
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking;
- Develop a construction traffic and parking management plan that maintains traffic flow and plan construction to minimize vehicle trips; and
- Identify sensitive receptors in the project area, such as children, elderly, and infirmed, and specify the means by which you will minimize impacts to these populations (e.g. locate construction equipment and staging zones away from sensitive receptors and building air intakes).

Impacts to Avian Species

The DEIS indicates that one of the primary concerns regarding biological resources identified during the scoping process was migratory bird corridors at the Rio Grande and San Pedro valleys (p. 3-69). For the New Mexico and Arizona portions of the study corridor, migratory species are a significant component of the total bird species, with approximately 267 species regularly occurring in the region (p. 3-82). Other species, including owls and raptors, are also likely to be disturbed by project activities. The DEIS describes the potential for several threatened or endangered species to occur in the study corridor, including the golden eagle, bald eagle, Mexican spotted owl, and the Southwestern willow flycatcher (which is a particular concern, as all four potential crossings of the San Pedro River are within designated critical habitat for this species).

All raptor and owl species are protected under the Migratory Bird Treaty Act (MBTA). The golden eagle and bald eagle also receive protection under the Bald and Golden Eagle Protection Act (BGEPA). In September 2009, the U.S. Fish and Wildlife Service finalized permit regulations[4] under the BGEPA for the take of bald and golden eagles on a limited basis,

[4] See Eagle Permits, 50 CFR parts 13 and 22, issued Sept. 11, 2009. See internet address: http://www.fws.gov/migratorybirds/CurrentBirdIssues/BaldEagle/Final%20Disturbance%20Rule%209%20Sept%202009.pdf



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provided that the take is compatible with preservation of the eagle and cannot be practicably avoided. Most permits under the new regulations would authorize *disturbance*, rather than take.

Recommendations:

4

- The FEIS should include a commitment to comply with current standards and practices that reduce the potential for raptor fatalities and injuries. The commonly referenced source is the *Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006 manual (APLIC 2006).*
- Identify, in the Final EIS, specific measures to reduce impacts to eagles, and clarify how the proposed project will comply with the MBTA and BGEPA.
- Include, in the Final EIS, design practices to be followed, as described in the Avian Power Line Interaction Committee document, *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994.*
- Include in the Final EIS a requirement for an Avian Protection Plan to be developed using the *2005 Avian Power Line Interaction Committee and U.S. Fish and Wildlife Service Avian Protection Plan Guidelines.*

1589	Response to Comment
4	Each of the suggested steps to reduce the risk to migratory birds will be included in the Avian Protection Plan. It should be noted that 500 kV systems are not considered to create a risk of electrocution, as engineering requirements require substantial spacing between energized components that cannot be spanned by any native bird wingspan that would be likely to occur within the Project area. The 1994 APLIC guidelines for collision have been revised, and a 2012 edition is in press. This will provide the best available information on measures to reduce collision risk.

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DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BLISS
1 PERSHING ROAD
FORT BLISS, TX 79916-3803

August 3, 2012

REPLY TO ATTENTION OF:

IMBL-PWE

Mr. Adrian Garcia
Project Manager
Bureau of Land Management
New Mexico State Office
301 Dinosaur Trail
Santa Fe, NM 87508-1560

Re: Fort Bliss review of SunZia Project Draft EIS and NOA

Dear Mr. Garcia:

1 Fort Bliss, as a Cooperating Agency to BLM for this project, has reviewed the Draft EIS (May 2012) and NOA for the SunZia Southwest Transmission Project. Fort Bliss concurs with the BLM decision to eliminate from further consideration the proposed routes (Subroutes 2A and 2B) that would have negatively affected training and operations at Fort Bliss. Section 2.3.3.1 of the Draft EIS correctly emphasizes that the Department of the Army (DA) would be the "relevant decision-maker in determining whether to issue a right-of-way" on land withdrawn for military purposes. As DA has previously stated, and as you noted in the DEIS, any rights-of-way crossing the McGregor or Dona Ana Ranges could not be granted without significant and possibly economically infeasible mitigation measures.

We appreciate that comments submitted for the Administrative Draft EIS earlier this year have mostly been incorporated into this Draft EIS. The Preferred Alternative would not negatively impact training and operations at Fort Bliss.

My points of contact for this are John Kipp 915-568-5162, john.m.kipp6.civ@mail.mil and Eric Wolters 915-568-0380, max.e.wolters.ctr@mail.mil at Fort Bliss Environmental Division if you have any questions.

Sincerely,

Vicki G. Hamilton, R.A.
Chief, Environmental Division
Directorate of Public Works

1590	Response to Comment
1	Comment noted

1591

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Post Office Box 1306
Albuquerque, New Mexico 87103

In Reply Refer To:
FWS/R2/ES-HC/EC/052407

AUG 21 2012

Memorandum

To: State Director, Bureau of Land Management, Albuquerque, New Mexico
(Attn: Adrian Garcia)

From: ACTING Regional Director, Region 2 Joy E. Nicholopoulos

Subject: Comments – Draft Environmental Impact Statement, Resource Management Plan Amendments and Plan of Development for the SunZia Southwest Transmission Project, Dated May 2012

This memorandum documents our review of the Draft Environmental Impact Statement (DEIS), Resource Management Plan Amendments (RMPA) and Draft Plan of Development (POD) for the SunZia Southwest Transmission Project, dated May 2012, developed by the Bureau of Land Management (BLM) in accordance with the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. §4321 *et seq.*). The project includes a right-of-way, in Socorro, Sierra, Luna, Grant, and Hidalgo counties in New Mexico and Cochise, Greenlee, Graham, Pima, and Pinal counties in Arizona, to construct and operate two 500-kilovolt (kV) electric transmission lines. The proposed transmission line route alternatives range between approximately 460 and 530 miles in length. It also requires a right-of-way crossing approximately 163 to 205 miles of BLM lands in Arizona and New Mexico. The remainder of the route would cross lands owned by state, private, or other entities. Proposed new substations would also be constructed in Luna, Hidalgo, and Graham counties. Standard and selective mitigation measures are identified.

Service Concerns

The Service believes the DEIS is an inadequate analysis and accounting of the potential environmental consequences of the proposed SunZia Southwest Transmission Project. In failing to fully and fairly disclose and discuss the potential significant environmental impacts of the proposed project, the DEIS is not consistent with the purpose of the National Environmental

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1591	Response to Comment
	See following page(s)

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Policy Act. Alternatives that would have protected against unnecessary effects to the environment and ultimately resulted in protections to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations were not sufficiently evaluated. The Service also believes that BLM did not honor the intent of the SunZia Transmission Project's Cooperating Agency Memorandum of Understanding or the BLM *Desk Guide to Cooperating Agency Relationships and Coordination with Intergovernmental Partners*. Cooperating Agencies statutory expertise was not sufficiently utilized, as BLM chose to limit communication and engagement. The following list identifies our primary concerns, while the remaining portion of our response provides a detailed accounting of these concerns.

- **Incomplete analysis of potentially affected federal-trust resources**
- **Incomplete analysis and comparison of scoped routes and routes ultimately defined as alternatives in the DEIS**
- **Avian collision-risk analysis flawed and field study inadequate to address migratory bird concerns**

Based on our review of the analysis in the DEIS/RMPA/POD, the Service believes the BLM proposed alternatives, including the preferred alternative, do not adequately analyze and account for impacts to Federal trust and other wildlife resources. Previously scoped routes with potential to address Service concerns were not adequately evaluated, evaluated against poorly analyzed alternatives that were removed from additional consideration, or arbitrarily removed from consideration as alternatives in the DEIS. Existing alternatives should be analyzed based on information provided by the Service, other Cooperating Agencies, the general public, and additional alternatives and mitigation measures formulated that would avoid or further minimize impacts should be considered.

1 Specifically in New Mexico, the Service believes Subroutes 1A (north of Socorro) and 1B2 (north of San Antonio), where they cross the Middle Rio Grande between Sevilleta and Bosque del Apache National Wildlife Refuges (NWR), are not the least damaging to Federal trust and other wildlife resources, the considerable conservation and management investments made by the Service and numerous other entities with interest in the Rio Grande area. Subsequently, the Service recommends BLM evaluate two additional alternatives. The first recommended additional alternative would be one that crosses the Middle Rio Grande north of Sevilleta NWR and the Bernardo Wildlife Area toward Belen and then turns south at a location west of Sevilleta NWR. The second recommended additional alternative would run south to the east side of the Rio Grande and east of Bosque del Apache NWR and west of White Sands Missile Range, ultimately crossing the Rio Grande preferably below Caballo dam. This second recommendation would require Congressional approval to release BLM's Antelope Wilderness Study Area from future wilderness consideration, as it would have to be crossed to follow the recommended route.

2 Even with inclusion of these routes as alternatives, there will be potential impacts to Federal trust resources. As such, mitigating alternate designs to any river crossing, such as undergrounding or bridging, need to be included as part of the proposed project. Alternative designs do not have to span the entire riparian area, as currently presented by the DEIS and supporting information.

1591	Response to Comment
1	Both alternatives were studied. A route (WSMR Route 1/1A) that would cross north of the Sevilleta NWR and then turn south west of the Sevilleta NWR was eliminated primarily because of other restrictive land designations on BLM land west of the Sevilleta NWR, such as ROW exclusion areas, and would not be compatible with Cibola National Forest land management policies (DEIS Section 2.3.3.1, pg. 2-29). As stated in the comment, an alternative that would follow the western edge of the WSMR (east of the Bosque del Apache NWR), was eliminated because congressional approval would be required to release BLM's Antelope WSA in order to allow a utility right-of-way.
2	The DEIS acknowledges that there is the potential for impacts to Federal trust resources at river crossings, especially in New Mexico. However, the BLM believes that undergrounding or bridging would cause more permanent impact to those resources than constructing overhead. As described in Section 4.16 of the DEIS, underground cable installation would result in substantial, permanent disturbance to riparian habitats (Section 4.16.1, Table 4-28, pg. 4-237). Construction of a cable bridge structure would result in an impact to riparian vegetation and habitat than either the overhead transmission lines or the underground alternative, and potentially conflict with access to the river (Section 2.3.3.2, pg. 2-37 – 2-38). Section 4.16 of the DEIS presents two engineering options at both alternative crossing locations for the underground alternative – a full-floodplain option and a river-only option, and discusses the advantages or disadvantages of each. Spanning riparian areas to the extent practicable and minimizing removal of riparian vegetation is the best way to mitigate and minimize impacts to this very sensitive resource. Additionally, the BLM preferred alternative was sited in a relatively narrow point of the floodplain and chosen to avoid large patches of mature riparian woodland. The collision risk study conducted by the University of New Mexico is based on the most current and best information available. All available and appropriate mitigation options for overhead lines would be considered and employed as needed. Structures are anticipated to be monopole or self-supporting lattice, depending on location in the floodplain and engineering requirements. Visibility-related mitigation measures (e.g. bird diverters) will be specified in the Avian Protection Plan.

1591

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2 Significant waterfowl and crane collision concerns are anticipated to be associated with the river channel portion of the riparian area of the alternatives. Additional collision concerns for other migratory birds funneling through the entire riparian area can be minimized for remaining infrastructure sited in the riparian area through use of appropriate pole types (e.g., monopole structures instead of guyed lattice towers) and configuration thus increasing the visibility of the overhead ground and communication wires (e.g., line markers, increasing the diameter of features through alternate materials and designs).

3 In Arizona, the Service believes Subroute 4C2c is not the least damaging to Federal trust and other wildlife resources, or to the considerable conservation and management investments made by the Service and numerous other entities with interest in the San Pedro River Valley. However, Subroute 4C3 through the Tucson Basin is preferable in that regard. Subroute 4C2c would result in new impacts in the San Pedro River Valley in a large area that is unfragmented and not developed. Similarly, Subroutes 4A and 4B would result in new impacts in the Galiuro Mountains in a large area that is unfragmented and not developed and could result in adverse impacts to aquatic resources in Aravaipa Creek and Turkey Creek, including the endangered spikedace (*Meda fulgida*) and loach minnow (*Tiaroga cobitis*), and the species' critical habitat.

The Service believes mitigation measures, such as undergrounding or a high visibility/marked bridged crossing of the Rio Grande, along with additional alternative routes that site the transmission line's crossing in a better location for reducing impacts to Service Federal trust resources and our partners conservation investments, are important approaches to adequately address potential impacts. The Service also recommends impacts from habitat loss and fragmentation should be evaluated and appropriate offsets proposed.

4 **Migratory Birds**

The lack of accurate avian occurrence and distribution information leads us to believe that more information on avian resources should be consulted in the preparation of the FEIS, including the biological and statutory expertise of the Service as a Cooperating Agency. It is unclear to the Service how the species were selected that BLM chose to include in the DEIS for discussion of potential threats and species distribution. We recommend BLM review the national, regional, and Bird Conservation Region (BCR) lists of Birds of Conservation Concern (BCC) at website (http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html) to fully evaluate the potential construction and disturbance effects to the bird species listed on the website. These lists identify the bird species that potentially are at the greatest threat regarding construction and disturbance from this project. Species on the BCC list were referenced at times throughout the DEIS, however, other species on these lists that should have been addressed were left off the analysis. We recommend BLM review the website to evaluate effectively the impacts on the avian community within the project's proposed alternatives and preferred alternative. We provide the following specific issues for evaluating effects to avian resources and their habitats for all proposed alternatives.

1. Existing data show that, at the very minimum, 385 bird species have occurred in Socorro County (eBird, http://ebird.org/content/ebird/, accessed July 11, 2012). Additional species have been recorded for the county but are not included in this dataset. Of this total, 361 species could be found in riverine habitats similar to the proposed alternative siting of the transmission line. Although many of these species can be considered as uncommon or even rare in riverine habitats

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3	Subroute 4C3 (Tucson route) has been acknowledged throughout preparation of the EIS as the biologically preferred alternative, although this route was not selected as the BLM preferred alternative when all resources were considered together. Of the remaining alternative subroutes, Subroute 4C2c was acknowledged to result in new road access and fragmentation. However, 4C2c avoids portions of the San Pedro River with perennial flows or riparian woodlands, and avoids the fragmentation associated with 4A and 4B. The potential impacts of each alternative are discussed in Section 4.6.5.4 of the DEIS.
4	Birds of Conservation Concern (BCC) were not addressed as a category in the DEIS or in Appendix B-1. Some species addressed in the DEIS and Appendix B-1 were also on the BCC list and this was noted, perhaps contributing to how the commenter perceived the description as inconsistent. A section discussing BCC has been added to the FEIS. Text in Section 3.6.8.3 of the FEIS has been modified to include additional language regarding the number of bird species in Socorro County and make note of the large number that occur in riparian habitats. Note will also be made that the presence of the SunZia transmission lines may pose a collision hazard to some individuals of those species. However, the studies show that this hazard will not be significant at the population level for any of the 200 species referenced by the Service. Text in the FEIS has been modified to include additional language regarding the number of bird species in Socorro County and make note of the large number that occur in riverine habitats. Note is made that the presence of the SunZia transmission lines may pose a collision hazard to some individuals of those species. An Avian Protection Plan and conservation strategy would be developed collaboratively between the BLM, cooperating agencies, and the proponent to address the issues of collision risk and habitat loss for migratory birds. 3.6.8.3 "Middle Rio Grande The Middle Rio Grande BHCA is located on the Rio Grande from near Los Alamos, New Mexico, south to the headwaters of Elephant Butte Reservoir. It contains extensive areas of middle-elevation riparian and wetland habitats, and is an important avian migratory corridor. Nearly 300 bird species have been regularly recorded in the region, the majority associated with the riparian corridor, and approximately 100 other species have been recorded rarely or as accidentals. The area is important for wintering waterfowl, as well as migrant and resident waterbirds and shorebirds. It provides habitat for the Southwestern Willow Flycatcher, Western Yellow-billed Cuckoo, and many other special-status species. The Middle Rio Grande BHCA is considered a state IBA (ibid)." The NMOS database was consulted as an additional source of information. Regarding Piping Plover specifically – the text in Section 3.6.6.1 has been clarified to indicate that Bosque del Apache NWR is the only location within the study area where the species is detected, which was the intent and in agreement with the citation that was used. Other counties listed in the NMOS database are outside the study area

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similar to the crossing north of San Antonio, NM, at least 277 species regularly occur in this habitat type. The DEIS should acknowledge and evaluate that crossing the Rio Grande in this area could have the potential to negatively affect well over 200 species of migratory birds.

2. The New Mexico Ornithological Society (NMOS) has made available in electronic form a searchable database of avian records that have been published in the NMOS Field Notes. This data set is housed at the University of New Mexico and is made available free to the public by Natural Heritage New Mexico (http://nhnm.unm.edu/partners/NMOS/). Based on these and other data, the search effort conducted for ornithological data for the DEIS was inadequate in regard to avian distribution and abundance data. For example, the DEIS (pg. 3-92) states "The Piping Plover is a rare spring migrant to New Mexico that has most often been observed at the Bosque del Apache NWR south of Socorro (BISON-M 2008). There are no other areas within the study corridor where this species is anticipated to potentially occur." Actually there are 8 records of piping plover from five counties in New Mexico, seven of which are listed in the NMOS database, yet only one of those occurred at Bosque del Apache NWR. 3. A substantial and readily available amount of avian information can be accessed through the Middle Rio Grande Biological Survey Final Report (Hink and Ohmart 1984), which should be referenced in the DEIS. Hink and Ohmart (1984) showed avian densities of up to 2,482 birds per 100 acres during the fall season 1982 in an area 20 miles north of the preferred alternative, but in similar habitat to the preferred alternative crossing site. This is one of the highest densities recorded for any habitat in the Southwest, highlighting the sensitivity and importance of the riparian habitats adjacent to the preferred alternative crossing of the Rio Grande.

4. Between 2000 and 2007, avian surveys were conducted by the U.S. Forest Service Research Station (Albuquerque) within riparian habitat one mile north of the preferred alternative site. Their data documented over 80 species of birds in the area during the breeding season. Many of these are nocturnally-migrating neotropical migratory birds which will be using the area in fairly high densities relative to upland sites adjacent to the preferred alternative crossing.

5. On page 3-93 of the DEIS it states "The Yellow-billed Cuckoo may also occur along the Rio Grande within the study corridor." A search of the NMOS Field Notes database reveals 390 Yellow-billed Cuckoo (*Coccyzus occidentalis*) records for the state, but more significantly, a total of 15 records exist within the riverine habitat along the Rio Grande in Socorro County, where the preferred alternative project is proposed. Additional research from Hink and Ohmart (1984) show densities of Yellow-billed Cuckoos up to 29 per 100 acres 20 miles to the north in habitats similar to those in the preferred alternative crossing. More recently, work conducted at the U.S. Forest Service Research Station documented this species' presence in three years of the eight year study.

6. The Service does not support the alternative to route the transmission line corridor within the Lower San Pedro River Valley from The Narrows northward to San Manuel. The San Pedro River is the last undammed desert river in the American Southwest. As such, it retains a functioning riparian ecosystem which supports millions of birds during their full life-cycle of breeding, wintering and migration seasons. The San Pedro River Valley has recorded over 400 species of birds within the watershed, nearly 45 percent of the 900 total species from North America. In 1993, LIFE magazine gave the San Pedro the title of one of "America's Last Great Places," and the unfettered viewscapes within the Lower San Pedro River Valley are considered among the best in the entire western United States.

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4	The Hink and Ohmart (1984) report has been reviewed. The DEIS acknowledges in Section 3.6.5.2 and 3.6.8 that many bird species are present in winter, migration, and as residents. (The BLM would appreciate a citation for the referenced study by the USFS Research Station, and would include relevant data after reviewing the document). The DEIS acknowledges in Section 3.6.6.1 that this species occurs in riparian habitats along the Rio Grande, and discusses in Section 4.6.4.5 the potential impact of the SunZia project based on current conditions, supported by field information, and acknowledges the potential for ongoing impacts to habitat recovery caused by vegetation management. The DEIS notes in Section 3.6.8 that the San Pedro River Valley is ranked as a globally important IBA. The DEIS also notes that siting of crossing alternatives was an initial attempt, prior to the development of additional mitigation, to avoid sensitive, high-quality riparian habitat. Link C592 is located within a fragmented mesquite bosque without permanent water, Link C660 is located adjacent to a planned transmission line corridor, Link C276 avoids permanent water and riparian woodlands, and Link C201 is located near and parallel to existing transmission lines in an ephemeral reach of the river. Appendix B-1 addresses all species listed in this comment, with the exception of the Chestnut-collared Longspur. Available information on that species will be reviewed and incorporated into Appendix B-1 if necessary. ESA-listed species are addressed in greater detail in the Biological Assessment. Concurrent with preparation of the final POD, BLM will collaborate with the USFWS, other cooperating agencies, and proponent to develop the Avian Protection Plan and conservation strategy based on the final permitted action, including identification of sites that will receive diverters or other mitigation. The draft APP has already considered guidance provided by APLIC (2006 and 2012), and will comply with guidance in Executive Order 13186.

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4 Of the 37 total species on the FWS BCC list within BCR 34, 31 have been recorded from the Lower San Pedro River Valley, including such high-profile species as Bald Eagle, Common Black-Hawk, Peregrine Falcon, Yellow-billed Cuckoo, Northern Beardless-Tyrannulet, Bell's Vireo, Gray Vireo, Yellow Warbler (*sonorana* ssp.), and Chestnut-collared Longspur. Southwestern Willow Flycatcher and Bell's Vireo additionally are more abundant within this stretch than in the world-renowned San Pedro Riparian National Conservation Area to the south, and occur at exceptionally high abundance regionally. Bell's Vireo is an Audubon Watch List (Red) listed species because of long-term declines indicated by the North American Breeding Bird Survey (down 60 percent from 1965-2004 in Arizona, trend line down 2.67 percent per year, p=0.002). The National Audubon Society conducted bird surveys within the Lower San Pedro River immediately adjacent to the proposed corridor route and detected an extremely high density of 4.3 to 10.3 Bell's Vireos per linear kilometer. This was one of the qualifying criteria for the advancement of this State-level Important Bird Area (IBA) designation to Global IBA status by the National IBA Technical Committee (fide Scott Wilbor). Gray Hawk nesting density is notably high as well in this small reach of the San Pedro River (0.67 nest territories/linear km, an estimated eight nest territories just on the small BHP Billiton mining property alone). Tropical and Thick-billed Kingbird both nest within the area adjacent to the proposed transmission corridor, both of which are uncommon to rare breeding species within the U.S., with only scattered breeding locations in southern Arizona where very specific habitat conditions occur.

We recommend BLM include mitigation of unavoidable impacts to Federal trust resources, including migratory birds and their habitat, for the preferred and proposed alternatives intersecting major bird migration corridors along the Rio Grande and San Pedro River. Specifically, there should be detailed discussions of the measures used to avoid or minimize and compensate for impacts to birds through the application of Avian Protection Plan Guidance (APLIC and USFWS 2005), Avian Power Line Interaction Committee guidance (APLIC 1994 with anticipated 2012 update, APLIC 2006) and BLM's commitments under the Executive Order 13186 Memorandum (2010) "Responsibilities of Federal Agencies to Protect Migratory Birds."

5 **Conservation Initiatives and Investments**

The Service believes potential impacts to conservation initiatives and investments made by the Service and other Federal, state and nongovernmental organizations with specific focus on the Rio Grande, San Pedro River, and other segments of the proposed SunZia transmission project were not adequately evaluated, analyzed, or documented in the DEIS. Specifically, the North American Wetlands Conservation Act (NAWCA) grants program was not considered in the evaluation and analysis of the preferred and proposed alternatives in the DEIS. Please reference the following website for further information on the NAWCA grant program: http://www.fws.gov/birdhabitat/Grants/NAWCA/index.shtm. The NAWCA of 1989 provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife. The NAWCA was passed, in part, to support activities under the North American Waterfowl Management Plan, an international agreement that provides a strategy and projects for the long-term protection, restoration and enhancement of wetlands and associated upland habitats needed by waterfowl and other

1591	Response to Comment
5	Text modified to include information on conservation easements in the FEIS, Section 3.10.3.3, Conservation Easements, in Chapter 3 and Section 4.10.5 in Chapter 4.

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migratory birds in North America. The Service's Division of Bird Habitat Conservation is responsible for facilitating the NAWCA Grants Program.

Since 2001, multiple NAWCA grant wetland conservation projects, totaling over 7,504 acres and investments reaching approximately $9.5 million (grants and match), have been established along the Middle Rio Grande in close proximity to the preferred and proposed SunZia transmission alternative routes. Portions of subroutes 1B1 and 1B2 of the proposed alternative north of San Antonio where it approaches the Middle Rio Grande on the east side of the river, will cross approximately one mile of a proposed property for a 2012 NAWCA grant. Based on a 400 foot right-of-way and a one mile crossing of the proposed NAWCA project, direct impacts of approximately 48.5 acres would occur and a higher number of acres would be impacted indirectly, significantly affecting the intended wildlife and habitat conservation efforts. If a SunZia right-of-way crosses through an existing NAWCA acquisition, disposal instructions will have to be issued, this may include a calculation of the attributable share amount requiring compensation.

The Service recommends these types of efforts be compiled and further analyzed as part of evaluating appropriate project route alternatives. We recommend the following generalized list of conservation initiatives and investments be evaluated and analyzed for the preferred and proposed alternatives included in the EIS:

New Mexico, Rio Grande

- Service's Partners for Fish and Wildlife program implemented habitat conservation activities on private lands including 83 wetland/riparian acres and 137 upland acres through private landowner agreements.
- Conceptual Restoration Plan: Active Floodplain of the Rio Grande, San Acacia to San Marcial, New Mexico (Save Our Bosque Task Force 2004)
- Middle Rio Grande Bosque Initiative
- America's Great Outdoors Middle Rio Grande Conservation Initiative
- North American Wetlands Conservation Act Grants

Arizona, San Pedro River, Aravaipa Creek

- Service's potential National Wildlife Refuge and other conservation efforts in the watershed of the Lower San Pedro River Collaborative Conservation Initiative
- The Nature Conservancy conservation easements
- Audubon's globally important bird areas
- Bureau of Reclamation mitigation properties and their management, such as 3 Links Farm and Spirit Hollow (more than $1.5 million and counting)
- Service's Partners for Fish and Wildlife program implemented habitat conservation activities on private lands including 272 wetland/riparian acres and 70 upland acres through private landowner agreements and up to $80,884 in Federal matching funds. The projects ranged from fencing to enhance and protect riparian habitats for migratory birds, wildlife and aquatic species; and revegetation of riparian and wetland habitats
- Saguaro-Juniper Corporation
- Salt River Project - Mitigation lands for Roosevelt Lake Habitat Conservation Plan

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	See following page(s)

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5 • ASARCO settlement of natural resource damages resulting in restoring and rehabilitating wetland, riparian and upland habitat sites.

Specific Draft EIS Comments

6 Page 1-5, 2nd Paragraph – Although the Service recognizes and supports the Administration's and the Secretary of Interior's emphasis on energy and associated infrastructure projects, we take the following quote to mean that the Secretary has indicated a balanced approach to the facilitation of energy developments is a responsibility of all Department of Interior agencies and employees.

"Renewable energy is a key part of keeping America competitive, creating jobs, and winning the future for our children," said Secretary Salazar. "At the Department of the Interior, we have a responsibility to ensure that solar, wind and geothermal projects are built in the right way and in the right places so they protect our natural, cultural and wildlife resources. Taken together, today's initiatives are another positive step toward making sure we are building a clean energy economy that is smart from the start." Secretary Salazar February 8, 2011.

7 Page 2.4.6 - How will overhead ground wires be marked?

8 Page 3-71, 2nd bullet - The form of the citation should be reviewed. The Bald and Golden Eagle Protection Act should be cited as 16 U.S.C. 668-668c. Citation to the associated regulations should adhere to the section of the Code of Federal Regulations.

Page 3-100 - Impacts to the Socorro spring snail should be discussed in more detail. Given the species low abundance and geographic isolation there was insufficient evaluation of avoidance of documented species sites and protection of the species. The Biological Resources section did not include a discussion of conservation easements. This should be developed further to highlight the conservation dollars that have been spent outside of federal and state lands for protection and enhancement. Impacts to these lands should be in the analysis.

Page 4-62, 3rd Paragraph - As described, the "Effects to aquatic species were mapped as potentially occurring where the project centerline would cross major drainages or areas of steep slope within watersheds where those species occur." Sediment is an issue for many aquatic species at some stage of their life cycle and may also indirectly affect adjacent riparian ecosystems for terrestrial species. Sediment movement can occur and impact downstream aquatic resources in many areas, not just in areas subjectively identified as "of steep slope." In addition, sediment movement and accumulation can affect stream morphology, affecting both aquatic and riparian habitat and associated species.

9 Page 4-65, 2nd and 3rd Paragraph - It is not clear if vegetation would be managed post-construction, through the life of the project, in the manner indicated in this paragraph. Please clarify if BLM has the authority to include enforceable conditions in the associated right-of-way grant or if some other approach would be utilized. There can be repeated and/or ongoing impacts to fish and wildlife from vegetation management. We recommend that means to effectively mitigate those impacts through the life of the project be identified.

1591	Response to Comment
6	Comment noted
7	Per selective mitigation measure 15, bird diverters will be installed on the OHGW as needed, particularly in areas of high bird use. Development of an Avian Protection Plan and conservation strategy will take place collaboratively with the BLM, cooperating agencies, and proponent.
8	1. The format of the citation has been corrected as suggested. "The BGEPA prohibits any form of possession or take (including many types of disturbance) of Bald and Golden Eagles. Certain exceptions for tribal cultural uses apply (Memorandum [16 U.S.C. 668-668c])." 2. The most recent publically available information (USFWS 2008 5-year review of the Socorro springsnail) indicated that access to the privately owned spring continued to be denied by the landowner. No discussion was made in that document of existing or pending conservation easements. The BLM would appreciate any additional information. 3. The discussion of how sedimentation may affect aquatic species has been revised to reflect additional potential issues described in this comment. 4.6.3 "Effects to aquatic species were mapped as potentially occurring where the Project centerline would cross major drainages, create substantial new access and ground disturbance, or cross areas of steep slope within watersheds where those species occur."
9	Vegetation management for the Project life will be addressed in the Construction, Operation and Maintenance Plan.

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10 Page 4-67, 4th Paragraph - Potential impacts to sandhill cranes (*Grus canadensis*) between Willcox Playa and the farmlands north of Interstate 10 in the Sulfur Springs Valley should be included.

Page 4-67 - The avian study has been discussed several times and although a reasonable baseline for bird movements it falls short of being a strong tool to analyze the impact of the lines on potential mortality. There are large gaps of time between sampling periods at each site thus, it must be assumed that each sample day is representative of daily movement; however weather, disturbance, shifts in food, etc. play a huge role within and among days. There is also concern with how distance between the birds and the wires were determined. Measurements were taken with range finders which have an increasing amount of error with increasing distance which could impact analysis of encounter rates. The strengths and shortfalls of the study should be further discussed with the Service's Region 2 biometrician.

11 Page 4-69, 2nd Paragraph - We recommend including a discussion about how construction of speed limits will be enforced for speed limits to be considered as meaningful mitigation.

Page 4-69, 3rd Paragraph - The meaning of the sentence "Although erosion would be effectively controlled with those methods, an elevated risk of erosion may remain in some disturbed areas" is not clear.

12 Page 4-72, 3rd Paragraph - More detail is needed on golden eagle (*Aquila chrysaetos*) surveys to assess the adequacy of the surveys and mitigation based on those surveys.

Page 4-73, 5th Paragraph - Please review the conclusion that mitigation measures "should be sufficient to eliminate direct effects" to Yuma clapper rails (*Rallus longirostris yumanensis*). This may be overstated, especially considering the close proximity of the proposed alignment to Picacho Reservoir. Based on research, bird diverters are not 100 percent effective.

Page 4-74, 4th Paragraph - If helicopter construction is employed, flight path noise effects to Mexican spotted owls (*Strix occidentalis lucida*) should be addressed. Such effects could be avoided if flight paths avoid Mexican spotted owl habitat.

Page 4-75, 4th Paragraph - To conclude absence of Southwestern willow flycatchers (*Empidonax traillii extimus*), surveys must be rigorous, performed by permitted individuals adhering to a defined protocol. An alternate approach is to assume presence in all potential habitat and avoid construction or other disturbance during the nesting season.

Page 4-76, 4th Paragraph - The Service recommends and supports use of alternate structure types as described in selective mitigation measure (SE) 7 to avoid creating nesting and perching opportunities for ravens (*Corvus spp.*) in Sonoran desert tortoise (*Gopherus morafkai*) habitat. Raven predation on hatchling and juvenile tortoises has the potential to affect tortoises over a much larger area than a small increase in footprint impacts from additional structures, as indicated on page 2-49. This section states the use of an alternate structure type would result in an increase in structures and subsequently an increased footprint of the development.

Page 4-77, 4th Paragraph - Mitigation measures for Gila chub (*Gila intermedia*) should more closely parallel those for northern Mexican gartersnake (*Thamnophis eques megalops*). The last sentence of the paragraph mentions SE 8 (spanning sensitive features) to support a conclusion

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10	The avian study represents the best available information on daily movements of birds in the middle Rio Grande Valley during the winter months. There was limited determination of distance between birds and existing conductors or groundwires in the study since only two of four study sites had wires present. The most critical measurements were made of birds traveling north from Bosque del Apache in the morning and returning to Bosque del Apache in the late afternoon/evening. The elevation of these birds was determined using range finders and showed that most movement was well above where lines for the SunZia project would cross the Rio Grande. In addition to the BLM study, it has been shown that increased collisions with transmission lines do not generally occur where the transmission line in question is more than one mile from bird use areas (Brown et al. 1984, 1987). In the case of SunZia, the BLM preferred alternative crossing of the Rio Grande is several miles north of the Bosque del Apache National Wildlife refuge, where the birds of concern roost and loaf, and several miles south of the area where the birds go to forage during the day. The floodplain at this location is relatively narrow, providing less farmland that may be used for foraging than other alternative crossing locations. An Avian Protection Plan and conservation strategy would be developed collaboratively between the BLM, cooperating agencies, and the proponent to address the issues of collision risk and habitat loss for migratory birds.
11	Construction speed limits will be enforced as a stipulation in the construction contract subject to compliance monitoring.
12	The BLM will coordinate with USFWS regarding potential impacts to Golden Eagles, and will address those issues, surveys, and mitigation measures as a component of the final Avian Protection Plan. The FEIS has been revised to reflect information developed during Section 7 consultation and presented in the Biological Assessment. 3.6.8.2 "Picacho Reservoir, located south of Florence and east of Casa Grande, Arizona, was originally constructed in 1889-1890 as part of the Florence Canal. The San Carlos Irrigation Project was initiated in 1924, incorporating the existing Florence Canal and reservoir. Picacho Reservoir is an approximately 50-acre site that serves as a water holding area and recharge site for diverted Gila River waters used by the Gila River Reservation and adjacent privately owned agricultural developments in the region. The Reservoir functions in regulating flows within the Florence–Casa Grande and Casa Grande Canals and provides a water storage reserve for the system (Gila River Indian Community 2003). It is seasonally or completely dry in most years, but is filled when the Gila River system and San Carlos Reservoir contains a surplus of water. When water is present, the site becomes highly attractive to waterfowl and shorebirds. The endangered Yuma Clapper Rail is occasionally recorded at Picacho Reservoir (AZGFD 2006; Todd 1986), and the site is identified as potential Southwestern Willow Flycatcher habitat in need of surveys. The Yuma Clapper Rail and Southwestern Willow Flycatcher may only be present during very wet years. Hunting is permitted on the property. Link C880 passes within 0.25 mile of the northwestern edge of the Reservoir."

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12 that such measures would "minimize potential effects" to stream waters. That sentence follows a sentence stating "the lower crossing may … require that a pair of towers be sited within designated critical habitat." Please review primary constituent elements of critical habitat for the Gila chub published by the Service on November 2, 2005 (70 FR 66664). Critical habitat involves more than the stream waters and the mitigation should address all primary constituent elements.

Page 4-78, 1st Paragraph - We recommend additional information be included on the distance from the Link C-170 crossing of the Turkey Creek watershed to the wet portion of Turkey Creek for an adequate analysis, replacing the phrase "far into the headwaters" as described in the existing text. Effects to roundtail chub (*Gila robusta*) should include effects in Turkey Creek as well since the species was documented in the creek in fall 2011 surveys. Roundtail chub are the subject of a positive 12 month petition finding published by the Service on July 7, 2009 (74 FR 32352) and are now a candidate species.

Page 4-78, 5th Paragraph and Page 4-79, 1st Paragraph - Similarly, more information should be included on the distance from the Link C-170 crossing of the Turkey Creek watershed to the designated critical habitat and wet portion of Turkey Creek for an adequate analysis. Please review primary constituent elements of critical habitat designations for spikedace and loach minnow published by the Service on February 23, 2012 (77 FR 10910).

Page 4-79, 3rd Paragraph - The discussion of properly designed road crossings of streams to reduce impacts to Gila topminnows (*Poeciliopsis occidentalis occidentalis*) at Turkey Creek is not clear based on the discussion of effects for Gila chub, spikedace, and loach minnow for the same area. For those taxa the discussion is in regard to effects from crossing through the upper portion of the watershed of Turkey Creek which is more plausible based on our review of images provided through the BLM project website.

Page 4-89, 3rd Paragraph - We recommend that more information be included on the reach of the transmission line alignment (e.g. mile to mile or station to station) where mitigation measure SE 15 (bird diverters) is proposed to allow an analysis of the sufficiency of the proposed measure in reducing collision impacts to sandhill cranes and waterfowl in the Willcox Playa area.

Page 4-99, 2nd Paragraph - At the San Pedro River crossing, SE 15, installation of bird diverters should be added to the measures identified. The San Pedro River is an extremely important corridor for birds.

Page 4-295, 5th Paragraph - Picacho Reservoir issues, including Yuma clapper rail and southwestern willow flycatcher, should be added to potential cumulative effects from the Final Central-Tortolita Transmission Line based on our review of the Application for a Certificate of Environmental Compatibility to the Arizona Corporation Commission for that project, as the alignment appears identical to the SunZia alignment between the Final Central and Tortolita Substations.

Page B1-241, 5th Paragraph - Add that Cienega Creek is designated critical habitat for the Gila chub in the project area (70 FR 66664, November 2, 2005).

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12	4.6.4.5 "The western terminus of the Project is approximately 3.7 miles west-northwest of Picacho Reservoir, where Yuma Clapper Rails occasionally occur (USFWS 2006). All alternative routes for the Project pass within 1 mile north of the reservoir, with Link C880 approaching approximately 500 feet from the northwest corner of the reservoir. Clapper Rails have been recorded colliding with power lines (Shire et al. 2000). However, due to the intermittent presence of suitable habitat and infrequent use of the reservoir by the species, the transmission lines should not present a significant risk. The transmission line is not located between Picacho Reservoir and other nearby areas likely to attract rails, further minimizing the risk of interaction with the Project. Construction practices and design measures intended to reduce impacts on waterfowl and other migratory bird species near the reservoir should be sufficient to minimize or eliminate the risk of direct effects to the Yuma Clapper Rail (SE 7 and 15). Water for Picacho Reservoir is largely delivered via canals from the Gila River, and the Project would not affect rail habitat by altering water flow to the reservoir or water quality in the canals." No Mexican Spotted Owl locations are known or expected along the centerline of any alternative. None would be located on any flight paths used for the BLM preferred alternative. If the BLM preferred alternative changes, section 7 consultation would be reinitiated if listed species may be affected and would consider all potential impacts to the Mexican Spotted Owl. All surveys for any species would be conducted according to approved protocols, if any exist. All surveyors would be appropriately trained and qualified. Raven predation has not been shown to have a negative effect on Desert Tortoises in the Sonoran Desert, although it may occur at a low level. This is acknowledged in the USFWS 2010 candidate finding for the species. Terrain and vegetation in the Sonoran Desert provides substantial cover from visual predators, and perches are generally not as limiting as within the Mojave Desert where predation is a concern. Selecting structure type based on reduced ground disturbance is expected to minimize impacts to Desert Tortoises to a greater degree than selecting structures that do not provide perches. However, perch deterrents would remain an option for the proposed structure type, to reduce bird use while avoiding an increase in ground disturbance. These would only be employed if information indicated that they would benefit the Desert Tortoise or other species. The Mexican Garter Snake and Gila Chub only occur in Cienega Creek along or downstream from any alternative. Mitigation measures would be employed for the entire suite of native aquatic species at Cienega Creek. The discussion in the DEIS was intended to avoid unnecessary repetition of information available 2 paragraphs previously. Text was clarified in the FEIS.

1591	Response to Comment
12	4.6.4.5 "Gila Chub The Gila Chub occurs within the study corridor only at the Cienega Creek Preserve. Since it is feasible for the Project to span the upstream crossing of Cienega Creek, and a new road crossing of the creek would not be needed, impacts to the Gila Chub would potentially only be associated with the effects of construction-induced erosion on the water quality of the creek. The terrain at the lower crossing of Cienega Creek (Local Alternative Link F51) may require that a pair of towers be sited within designated critical habitat for the Gila Chub, as discussed above regarding the Northern Mexican Garter Snake. Standard mitigation measures addressing erosion and SE 1, 2, 3, 5, 7, and 8 would minimize potential effects to stream waters." The Roundtail Chub is described as a listing candidate in Table 3-30. The stream distance along Turkey Creek and reference to survey results has been added to the FEIS. 4.6.4.5 "Roundtail Chub Aravaipa Creek supports the only population of the Roundtail Chub in proximity to the study corridor. Link C170 would cross a nonperennial reach of Aravaipa Creek in the northern portion of the Sulphur Springs Valley, approximately 6 miles upstream of the perennial reach of Aravaipa Creek where Roundtail Chubs occur. This link also would span the headwaters of Turkey Creek, a tributary drainage to Aravaipa Creek that supports the Roundtail Chub and other native fish. This location is approximately 0.5 mile from the uppermost limits of the watershed, and approximately 8.5 miles from the confluence with Aravaipa Creek. Potential impacts to the Roundtail Chub and its habitat from the Project would be limited to effects to water quality in Turkey and Aravaipa creeks. Although tower pads may be located on ridgelines forming the Turkey Creek watershed boundary, new access roads would be sited outside the watershed to the extent practical. Existing access is present in this area, although road improvements may be necessary. Mitigation measures addressing erosion would minimize the potential for sedimentation effects to Turkey and Aravaipa creeks (SE 1, 2, 3, 5, 7, and 8)." The critical habitat designation was reviewed when it was released. No critical habitat for these two fish species is crossed, no permanent flow in streams supporting these species is crossed, and no PCEs are present. The mitigation measures listed would be applied wherever appropriate, regardless of which alternative is selected. The sentence discussing road crossings as written was primarily intended to refer to Cienega Creek. This phrasing has been clarified to reflect existing conditions for Turkey Creek as well as Cienega Creek.

1591	Response to Comment
12	4.6.4.5 "Gila Topminnow Gila Topminnows are present in close proximity to the proposed crossing locations of Cienega Creek, and could be affected by any construction activities occurring in the streambed or on adjacent steep slopes where soils may be susceptible to erosion. Gila Topminnows present in the tributaries of Aravaipa Creek, including Turkey Creek, are located several miles downstream from locations where Link C170 would cross the uppermost portion of the Turkey Creek watershed. *An existing road that may require improvement is present at this location, and all new disturbances would take place outside the Turkey Creek watershed to the extent practical.* Postconstruction maintenance vehicles could temporarily raise levels of suspended sediment when crossing streams supporting Gila Topminnows or other native fish. However, properly constructed road crossings *in the watersheds of Cienega and Turkey creeks* should reduce this potential impact to biologically insignificant levels. Mitigation measures addressing erosion would minimize the potential for sedimentation effects to waterways during the construction phase of the Project (SE 1, 2, 3, and 7)." Bird diverters are anticipated to be installed at the San Pedro River crossing, regardless of alternative. Detailed sites for diverter installation will be described in the final Avian Protection Plan. Bird diverters may be installed at Picacho Reservoir, if determined to be warranted. Given the short lifespan of diverters, they may only be warranted during wet years when water is present in Picacho Reservoir. Detailed sites for diverter installation will be described in the final Avian Protection Plan. The Pinal Central to Tortolita Substation project is noted in the cumulative effects discussion for biological resources as potentially affecting the Sonoran Desert Tortoise and Tucson Shovel-nosed Snake. This section now notes the two bird species as well. 4.17.4.6 "In the northwest portion of the Project area, the Pinal Central-Tortolita Transmission Line and the SunZia Transmission Line have the potential to cumulatively affect the Tucson Shovel-nosed Snake and the Sonoran Desert Tortoise, *as well as the Southwestern Willow Flycatcher and Yuma Clapper Rail in wet years when water is present in Picacho Reservoir*." Updated information on the Gila Chub, Roundtail Chub, and Loach Minnow is included in Section 4.6.4.5 and 4.6.5. Rio Grande Silvery Minnow critical habitat is now noted in Table H-7.

1591

10

12 Page B1-242, 5th Paragraph - Based on fall 2011 surveys, roundtail chub are also found in Turkey Creek, a tributary to Aravaipa Creek. The project alignment crosses the upper end of the Turkey Creek watershed.

Page B1-245, 5th Paragraph - Based on fall 2011 surveys, spikedace are also found in Turkey Creek, a tributary to Aravaipa Creek. The project alignment crosses the upper end of the Turkey Creek watershed. A portion of Turkey Creek is designated as critical habitat for the spikedace (77 FR 10910, February 23, 2012).

Page B1-248, 3rd Paragraph - Based on fall 2011 surveys, loach minnow are also found in Turkey Creek, a tributary to Aravaipa Creek. The project alignment crosses the upper end of the Turkey Creek watershed. A portion of Turkey Creek is designated critical habitat for the loach minnows (77 FR 10910, February 23, 2012).

Page H-34 - On the row for Subroute 1A add Rio Grande silvery minnow (*Hybognathus amarus*) with critical habitat. On the row for Subroute 1A1 add Rio Grande silvery minnow with critical habitat.

Specific Comments Regarding the Rio Grande Crossing

13 2012 surveys report nesting flycatchers in the vicinities of both Rio Grande crossing alternatives, which could be adversely affected.

2012 surveys for the candidate species Yellow-billed Cuckoo reported detections throughout the Rio Grande riparian area in Socorro County, including within the vicinities of both Rio Grande crossing alternatives. Currently, the Service is making a listing determination on the cuckoo and potential designated critical habitat.

The Pecos sunflower (*Helianthus paradoxus*) is federally listed as threatened and is known to occur adjacent to the Rio Grande on private land about 4 miles north of the proposed south Rio Grande crossing and 8 miles south of the proposed north Rio Grande crossing. At least one additional population of Pecos sunflower has been naturally established on that same private land from the original population which verifies that the seed is spreading. Additionally, the La Joya Wildlife Area, located approximately 15 miles north of the proposed north Rio Grande crossing, has populations of Pecos sunflower. A population of Pecos sunflower has recently been established on private land north of Bosquecito, NM. We recommend including discussions of the Pecos sunflower in the EIS. Surveys for Pecos sunflower should be conducted throughout the Project study corridor, as appropriate. We recommend mitigation measures be considered.

Any type of river crossings and associated ground disturbance (clearing and berm development) that prevent flow back to the river should be minimized to prevent potential fish entrapment during overbank flooding.

An Avian Protection Plan should be developed for the SunZia transmission project and associated distribution lines used to power associated project features (e.g., signal relay stations).

Consultant response to Service Administrative Draft Environmental Impact Statement (ADEIS) comment number 65 refers to selective mitigation measure number 14; Table 2-11 Selective Mitigation Measures is not fully legible.

1591	Response to Comment
13	Construction within Southwestern Willow Flycatcher habitat will occur outside the nesting season for this species, and vegetation removal within suitable flycatcher habitat will be minimized to the extent possible. Field investigations conducted by EPG and reports from the Bureau of Reclamation suggest that there is no suitable habitat for flycatchers at the BLM preferred crossing of the Rio Grande. However, nesting flycatchers were detected nesting approximately 0.3 miles downstream in at least one year (2008). The potential for habitat recovery and future impacts of the project is discussed in Section 4.6.4.5 of the DEIS and Biological Assessment. Although Yellow-billed Cuckoos do occur in the riparian habitats along the Rio Grande, the mitigation measures and conditions specified in the POD and Biological Assessment require that construction at Rio Grande River crossings would not be conducted during the Southwestern Willow Flycatcher nesting season, and should greatly reduce any potential impact to nesting Yellow-billed Cuckoos. Both species are present in the middle Rio Grande Valley only during the May-August nesting season. If critical habitat for the Yellow-billed Cuckoo is designated within the project area for the species upon listing, consultation with USFWS would be reinitiated. Text was modified in the FEIS to include a discussion of Pecos sunflower, and is also included in the Biological Assessment. Surveys for the species will be conducted in any suitable habitats prior to construction. If plants are found during surveys their locations will be noted and mitigation actions to avoid impact to those plants will be implemented. The Pecos Sunflower is addressed in Section 3.6.6.1 of the FEIS. Table 1-5 lists federal and state permits that would be necessary to construct the Project in the floodplain of the Rio Grande. Any stormwater and sediment control measures would be in compliance with those permits, and with any stipulations developed during section 7 consultation with the USFWS. A final Avian Protection Plan will be developed for the SunZia project and will address avian resources throughout the project area.

13 Consultant response to Service ADEIS comment #66 does not address comment on not constructing new roads within the riparian habitat. Comment number 66: No new roads should be constructed within the riparian area of the Rio Grande.

Consultant response to Service ADEIS comment number 68 regarding risk to special-status birds (cuckoo) "cannot feasibly be estimated" should be clarified as suggested by the BLM responder. The consultant response included the statement "The issue is further compounded in that the species under discussion are regionally rare (and in the case of the Yellow-billed Cuckoo, often silent during migration)." This should be revisited given the results of the 2012 cuckoo survey.

Specific Draft POD Comments

14 Page 5-3, Section 5.4.2, Lines 24 and 25 – Does this section include riparian zones? If so, then the amount of ground disturbance will be quite significant through the riparian zones and the associated impacts to designated critical habitat (e.g., at the Middle Rio Grande crossing) and potentially occupied nesting habitat of migratory birds.

Page 5-3, Section 5.4.2, Lines 28 and 29 - Is the proponent or their contractor authorized to conduct actions, such as chemical treatment, outside the right-of-way area?

Page 5-4, Section 5.6, Lines 11-13. - The Service recommends specific details of proposed bird flight diverters be discussed at length in the POD.

Page 6-3, Table 6-1, Mitigation Measure 14 - This should include "operations" as impacts to protected wildlife (e.g., ESA, MBTA and/or BGEPA protected) that could occur during the operations such as repairs, maintenance and vegetation management operations/activities.

Page 6-6, Table 6-1, Mitigation Measure 25 - The discussion of buffers for eagles should be developed in consultation with the Service's Region 2 Migratory Bird Permitting Office staff. A permit may be required for disturbance activities in proximity to eagle nest and roosting areas.

Page 6-7, Table 6-1, Mitigation Measure 29 - This should include a discussion on the development of an Avian Protection Plan, and commitments BLM will implement based on the Executive Order 13186 Memorandum of Understanding signed by BLM and the Service.

Page 6-10, Table 6-2, Mitigation Measure 7 - The selective mitigation measures to be implemented to avoid or minimize and compensate avian conflicts should be its own selective mitigation measure with more detailed discussion of the approaches proposed.

Page 6-11, Table 6-2, Mitigation Measure 9 - The materials provided by SunZia engineer contractor through Adrian Garcia (email July 6, 2012) suggests a different approach is going to be taken, as compared to mitigation measure 9, with offset tower spacing on the two different lines.

Page 6-12, Table 6-2, Mitigation Measure 12 - For this to be a mitigation measure, the specific date ranges need to be specified. Also, timing stipulations do not eliminate all potential disturbances of wildlife. The loss and fragmentation of habitat is still a negative effect.

Page 6-13, Table 6-2, Mitigation Measure 15 - No information included supports the notion that one inch overhead ground wires are sufficient to reduce or eliminate collision mortality.

1591	Response to Comment
14	Specific Draft POD comments will be addressed in the Final POD.

1591

12

14 Additionally, it is not a selective mitigation practice if the size of the line is already at one inch because of the optical fiber communication cable and the existing overhead ground wire.

15 A discussion of Avian Protection Plan and APLIC publications on electrocution and collision manuals is needed.

Page 6-18 and 6-19, Section 6.2.9.1 - There should be a discussion about the potential impacts of avian collision mortality at important river/stream crossings and impacts to migratory birds from loss and fragmentation of habitat.

Page A1-2, Section 3.3 - This should include areas identified in the Service's Biological Opinion, as well as terms and conditions and reasonable and prudent measures, not just information from the Biological Assessment.

Page A2-2, Table A2-1 - Distances need to be specified; using "near flagged items" is not descriptive enough.

Page A9-1, Lines 5-9 – This section should also discuss Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act and Executive Order 13186 Memorandum of Understanding between BLM and the Service.

In keeping with our trust responsibilities to American Indian Tribes we will notify the potentially affected Tribes by copy of this memorandum.

Thank you for the opportunity to provide comments on this draft environmental impact statement. We encourage you to coordinate the review of this project with the Arizona Game and Fish Department and New Mexico Department of Game and Fish. We respectfully request that BLM hold regular Cooperating Agency meetings, at a minimum every month, to ensure full engagement and discussion of the SunZia project's NEPA process.

Should you require further assistance or if you have any questions, please contact acting Regional Director Joy Nicholopoulos at 505-248-6283.

1591	Response to Comment
15	Specific Draft POD comments will beaddressed in the Final POD.

Literature Cited

Avian Power Line Interaction Committee (APLIC). 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994. Edison Electric Institute and APLIC, Washington, DC.

Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.

Avian Power Line Interaction Committee (APLIC). 2012. Reducing avian collisions with power lines: the state of the art in 2012. Edison Electric Institute and APLIC, Washington, D.C. Final Manuscript Under Final Review (anticipated fall 2012 publication).

Avian Power Line Interaction Committee (APLIC) and U.S. Fish and Wildlife Service. 2005. Avian Protection Plan Guidelines. Edison Electric Institute, APLIC and USFWS, Washington , D.C.

Hink, V. and R.D. Ohmart. 1984. Middle Rio Grande biological survey final report. U.S. Army Corps of Engineers, Albuquerque, NM.

Save Our Bosque Task Force. 2004. Conceptual Restoration Plan: Active Floodplain of the Rio Grande, San Acacia to San Marcial, New Mexico. http://sobtf.org/. Accessed: August 22, 2012.

cc: Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
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Arizona State Office, Bureau of Land Management, Phoenix, AZ
Field Supervisor, Fish and Wildlife Service, Albuquerque, NM
Field Supervisor, Fish and Wildlife Service, Phoenix, AZ
Tohono O'odham Nation, Natural Resources Department, Sells, AZ
San Carlos Apache Tribe, Wildlife & Recreation Department, San Carlos, AZ
Alamo Navajo, NM
Pueblo of Acoma, NM
Pueblo of Isleta, NM
Pueblo of Laguna, NM
Mescalero Apache, NM
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Fort Bliss, U.S. Army, Fort Bliss, TX
Fort Huachuca, U.S. Army, Sierra Vista, AZ
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Regional Biologist, Bureau of Indian Affairs, Albuquerque, NM
Gran Quivira, Salinas Pueblo Missions National Monument, Mountainair, NM
Arizona Department of Transportation, Phoenix, AZ
Arizona State Land Department, Phoenix, AZ
New Mexico Spaceport Authority, Las Cruces, NM
New Mexico State Land Office, Santa Fe, NM
U.S. Army Corps of Engineers, Albuquerque, NM
Division of Migratory Bird Office, Washington DC, Attn: Sarah Pearson Mott

1603

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 Jefferson Plaza NE
Albuquerque, New Mexico 87109
505/342-3279
FAX 505/342-3498

August 14, 2012

REPLY TO
ATTENTION OF

Regulatory Division
New Mexico/Texas Branch

SUBJECT: Action No. SPA-2009-00292-abq; SunZia Twin 500 kV Transmission Lines, Southern New Mexico to Southern Arizona.

Mr. Adrian Garcia
Bureau of Land Management
P.O. Box 27115
Santa Fe, New Mexico 87502

Dear Mr. Garcia:

Provided below are comments on the Bureau of Land Management's (BLM) SunZia Southwest Transmission Project (SunZia) draft Environmental Impact Statement (EIS), dated May/June 2012. The SunZia project involves energy transmission line routing between south-central New Mexico to southern Arizona. We have assigned Action No. SPA-2009-00292-ABQ to this project. Please reference this number in future correspondence.

The following comments apply to the preliminary Plan of Development (POD):

1

1. Pg. 6-4; Table 6-1, Standard Mitigation Measures; measures 18 and 19: The measures describe standard mitigative practices to prevent or minimize project-related adverse impacts to vegetation, drainage channels, and intermittent and perennial streams. The text does not include wetlands.

Wetlands should be included in the characterization of aquatic resources to be protected.

2. Pg. A1-5, lines 31 and 32: The text describes using at-grade "Arizona crossings" to cross drainages when feasible but does not describe when these crossings would be feasible, or how they are constructed.

1603	Response to Comment
1	Specific Draft POD comments will be addressed in the Final POD.

1603

-2-

1 **Please describe in more detail the construction methods for Arizona Crossings and under what conditions these crossings are feasible.**

3. Pg. A1-5, lines 33 through 36: The text states that permanent disturbance exceeding 1/10 acre will require special permitting but does not describe permanent stream crossing construction.

It seems likely that permanent stream crossings will be required. Please describe how permanent stream crossings will be constructed.

4. Appendix B1 - Biological Resources Protection Plan, Section 2.1.4 – Clean Water Act, Section 404, Pgs B1-4 and B1-5: The text describes when preconstruction notification (PCN) is required and states that if locations trigger a PCN requirement, further engineering solutions will be employed to attempt to reduce the impact below the PCN threshold. The paragraph goes on to say that if PCN is triggered for any single location, PCN could be required for all waters of the United States disturbed by the project.

Please review the Regional Conditions for New Mexico posted at the SPA website. It seems likely that a project of this magnitude will at some location(s) require PCN. Furthermore, activities at a single site that trigger PCN do not make all other project sites within the Corps' jurisdiction subject to the PCN process. Each utility line or access road crossing is characterized as a single and complete project. Thus, each crossing is evaluated according to its individual impacts. Additionally, please review the PCN process. A PCN evaluation does not significantly affect or extend the permitting process.

The following comments apply to the Draft EIS and Resource Management Plan Amendments, Map Volume:

2 5. Water Resources, Figure M 5-1 E: The figure only color codes Impaired Waters within the study corridor. Additionally, wetlands are not identified.

Please identify Impaired Waters by name. Also, the cause of impairment should be identified on the map and/or within the body of the text in the appropriate section of the EIS. Finally, please reference the U.S. Fish and Wildlife Service's (Service) National Wetlands Inventory (NWI) map sets to locate potential wetlands within the study corridor.

6. Water Resources, Figure M 5-1 W: The figure only color codes Impaired Waters and Outstanding Resource Waters within the study corridor. Additionally, wetlands are not identified.

Please identify Impaired and Outstanding Resource Waters by name. Also, the cause of impairment should be identified on the map and/or within the body of the text in the appropriate section of the EIS. Finally, please reference the Service's NWI map sets to locate potential wetlands within the study corridor.

1603	Response to Comment
2	To supplement the water resources data in the DEIS, the names of Impaired Waters and Outstanding Resource Waters have been added in Section 3.5.4 of the FEIS.

1603

-3-

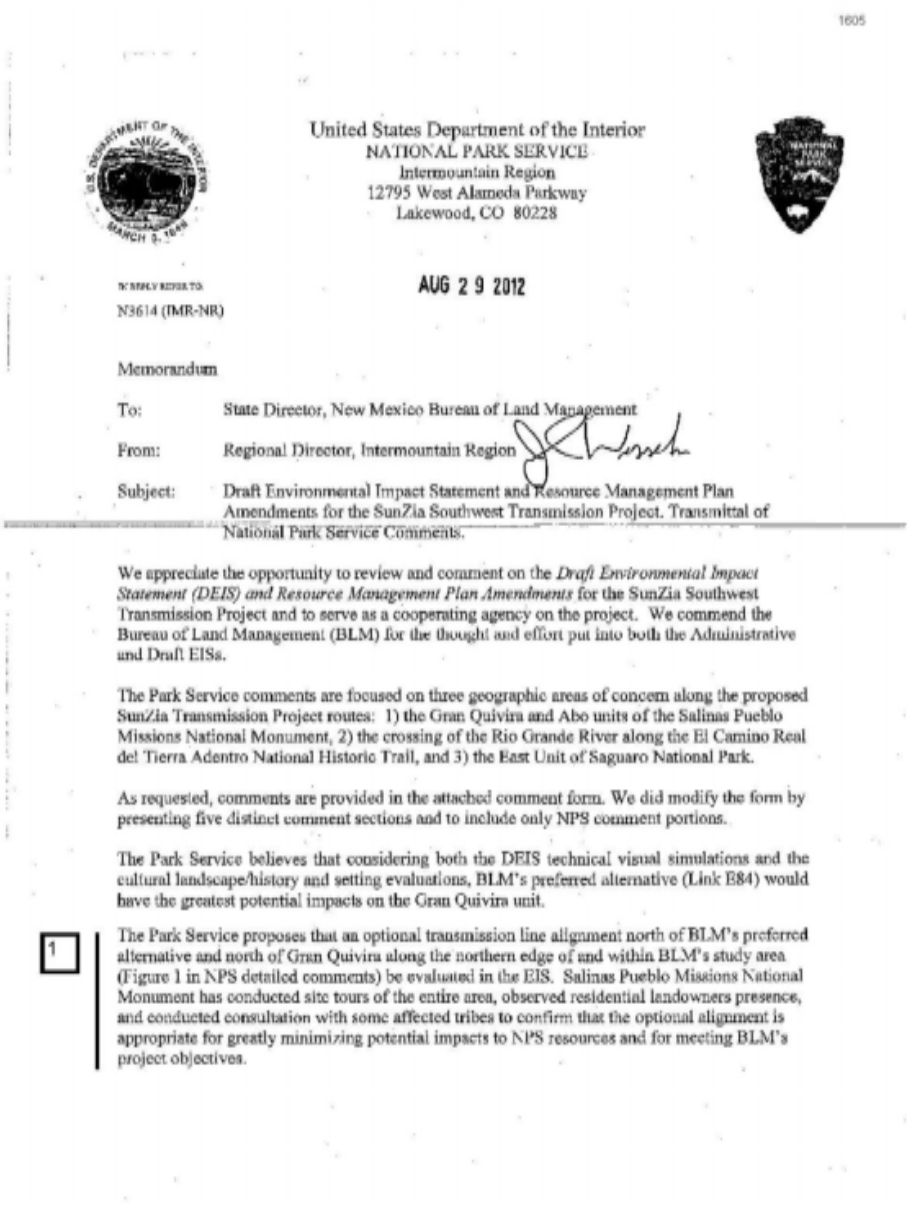
In addition, please be aware that questions of Section 404 jurisdiction will be resolved by the Corps in consultation with the BLM and the project proponent.

Thank you for providing the Albuquerque District the opportunity to comment on the SunZia project. If you have any questions, please contact me at 505-342-3279 or by e-mail at Ed.L.Paulsgrove@usace.army.mil.

Sincerely,

Edward Paulsgrove
Regulatory PM

1603	Response to Comment
	See following page(s)



1605

United States Department of the Interior
NATIONAL PARK SERVICE
Intermountain Region
12795 West Alameda Parkway
Lakewood, CO 80228

IN REPLY REFER TO:
N3614 (IMR-NR)

AUG 2 9 2012

Memorandum

To: State Director, New Mexico Bureau of Land Management

From: Regional Director, Intermountain Region

Subject: Draft Environmental Impact Statement and Resource Management Plan Amendments for the SunZia Southwest Transmission Project. Transmittal of National Park Service Comments.

We appreciate the opportunity to review and comment on the *Draft Environmental Impact Statement (DEIS) and Resource Management Plan Amendments* for the SunZia Southwest Transmission Project and to serve as a cooperating agency on the project. We commend the Bureau of Land Management (BLM) for the thought and effort put into both the Administrative and Draft EISs.

The Park Service comments are focused on three geographic areas of concern along the proposed SunZia Transmission Project routes: 1) the Gran Quivira and Abo units of the Salinas Pueblo Missions National Monument, 2) the crossing of the Rio Grande River along the El Camino Real del Tierra Adentro National Historic Trail, and 3) the East Unit of Saguaro National Park.

As requested, comments are provided in the attached comment form. We did modify the form by presenting five distinct comment sections and to include only NPS comment portions.

The Park Service believes that considering both the DEIS technical visual simulations and the cultural landscape/history and setting evaluations, BLM's preferred alternative (Link E84) would have the greatest potential impacts on the Gran Quivira unit.

1 The Park Service proposes that an optional transmission line alignment north of BLM's preferred alternative and north of Gran Quivira along the northern edge of and within BLM's study area (Figure 1 in NPS detailed comments) be evaluated in the EIS. Salinas Pueblo Missions National Monument has conducted site tours of the entire area, observed residential landowners presence, and conducted consultation with some affected tribes to confirm that the optional alignment is appropriate for greatly minimizing potential impacts to NPS resources and for meeting BLM's project objectives.

1605	Response to Comment
1	Subroute 1A1 was identified in the Draft EIS as the BLM Preferred Alternative. The identification of Subroute 1A2 (the BLM Preferred Alternative) in this Final EIS was made in response to comments on the Draft EIS that requested modifications to Subroute 1A1 (segments E84, E80 and E101) in order to increase the distance between the transmission lines and the Gran Quivira as well as the distance between the transmission lines and military missile launch complex 94 (LC 94).

1605

The Park Service recommends BLM convene a cooperating agency meeting in New Mexico soon after agency comments on the DEIS are reviewed. We are available for meetings in Santa Fe or in any other location in New Mexico. Also, we ask that BLM initiate and hold face-to-face, government-to-government consultation with the Salinas Pueblo Missions NM culturally affiliated tribes concerning relevant cultural resources. The Park Service is willing to host and facilitate such consultation meetings prior to the preparation of the final EIS. Additionally, we recommend that BLM more definitively describe and evaluate potential impacts to cultural landscapes and resources surrounding NPS lands to effectively avoid, minimize and potentially mitigate impacts connected to this particular project and in connected planning in BLM's proposed *Resource Management Plan* amendments.

In summary, NPS is appreciative of BLM's efforts thus far to locate the proposed line with minimal impacts to NPS resources. Through the ongoing cooperating agency relationship, NPS looks forward to working with BLM to further refine the proposed line location and impacts analyses leading to the final EIS.

If you need any additional information, please contact John Reber, Energy Coordinator for the NPS Intermountain Region at 303-969-2418 or Lara Rozzell, Renewable Energy Specialist at 303-969-2527.

Enclosure

bcc:
Tammy Whittington, Associate Regional Director, Resources, Stewardship and Science, and Science Advisor, Intermountain Region
Patrick Malone, Assistant Regional Director for Natural Resources, Intermountain Region
Christine Turk, Regional Environmental Quality Coordinator, Intermountain Region
Glenn Fulfer, Superintendent, Salinas Pueblo Missions National Monument
Darla Sidlos, Superintendent, Saguaro National Park
Scott Stonum, Chief, Science and Resource Management, Saguaro National Park
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Crystal Salas, Environmental Protection Assistant, Intermountain Region
Sarah Quinn, Renewable Energy Coordinator, Geologic Resources Division, Washington Office
Adrian Garcia, SunZia Project Manager, Bureau of Land Management, Santa Fe, New Mexico

1605	Response to Comment
	See following page(s)

National Park Service – Comments on SunZia DEIS – August, 27, 2012

		Section	Page	Comment Provided by	Comment
	Section 1 - NEPA and Section 106 of NHPA Process Comments				
2	1-1	Executive Summary	7-8	NPS	"Cultural resources" only includes archaeology -- other cultural resources (historic structures, cultural landscapes, ethnographic resources) need to be included.
3	1-2	Ch. 2	2-108	NPS	NPS comments/concerns should be included under "Agency Comments." Only DOD, NMDFG, and USFWS are listed on this page.
4	1-3	Ch. 2	Table 2-10	NPS	Undergrounding (burying the transmission line) is not listed in the selective mitigation measures table. It should be considered and evaluated as a mitigation measure where the project is proposed to cross El Camino Real de Tierra Adentro National Historic Trail (NHT).
5	1-4	Ch. 2	Table 2-10	NPS	In addition to archaeological field survey, any cultural resources work related to lands near El Camino Real de Tierra Adentro NHT should include archival and documentary research conducted by a historian or historical archaeologist who meets the Secretary of Interior's Professional Qualification standards for those disciplines.
6	1-5	Ch. 2	Table 2-13	NPS	Please add El Camino Real NHT to visual resource impacts section. El Camino Real Scenic Byway is listed, but visual impact to the setting of El Camino Real NHT is a major component of the overall impacts to the trail, and is one the least amenable impacts for mitigation.

1605	Response to Comment
2	Text has been modified to include details of types of cultural resources.
3	Text in Table 2-13 has been modified to address NPS comments.
4	The underground mitigation alternative was evaluated in response to public concerns about the risk of migrating birds colliding with overhead transmission lines crossing the Rio Grande (DEIS, Section 4.16, p. 4-234). Underground construction was not considered as a selective mitigation measure at the historic trail crossing.
5	Comment noted
6	Developed recreational trails with designated trail routes, trailhead/use areas are evaluated in the visual resource section of the DEIS (Chapter 3.9 and Chapter 4.9). In response to the comment provided regarding setting or landscape sensitivity associated with the trail as a cultural resource, the trail does not have any developed areas for recreation users. The historic trail would not be evaluated for visual impacts since there are no associated recreation viewers. However, visual impacts to the setting aspect of historic integrity of El Camino Real de Tierra Adentro NHT have been assessed as a cultural resource under Section 4.8.3.2, and are listed under the "Cultural Resource" row of Table 2-10. In addition, National Scenic and Historic Trails will be inventoried and assessed as a separate appendix in the FEIS per BLM direction.

7	1-6	Ch. 3	3-174	NPS	The section on tribal concerns is minimal, and no mention is presented about tribal concerns within the Gran Quivira unit of Salinas Pueblo Missions National Monument. It appears that only a fraction of the tribes associated with the Gran Quivira unit, and previously determined to be culturally affiliated with the Native American human remains from Salinas Pueblo Missions National Monument, were contacted. None of the fourteen consulting tribes affiliated with Salinas Pueblo Missions were formally consulted by BLM since the project proposal moved the preferred alternative within the cultural landscape of Gran Quivira. Further efforts need to be made to contact all tribes and ask for specific consultation regarding impacts to the Gran Quivira unit. Consultation also needs to occur related to the Gran Quivira unit as a sacred site and potentially a Traditional Cultural Property (TCP) with significance under NHPA. Consultation also needs to take place regarding the cumulative impacts to the Gran Quivira unit and other regional, cultural sites.
8	1-7	3.9.1	3-181	NPS	The Cultural Landscape Inventory (CLI) for Salinas Pueblo Missions NM needs to be included as well as the park's General Management Plan, because the CLI directly addresses NHPA Section 110.
9	1-8	4.6.4.2	4-65	NPS	Saguaro National Park requests the opportunity to review and comment on the referenced "Noxious Weed Management Plan that will be included as an Appendix to the POD." Concerns remain that the proposed project could lead to the introduction and spread of noxious invasive weeds such as buffelgrass into the relatively undeveloped areas between the park and the San Pedro River valley. This could ultimately lead to direct impacts within the park.
10	1-9	Ch. 4	4-108	NPS	The Gran Quivira unit of Salinas Pueblo Missions National Monument is not listed as an area of tribal concern, yet is an important site for several tribes. Please add.
11	1-10	Ch. 4	4-108	NPS	The text does not list any tribal concerns east of the Rio Grande valley leading up and into the Gran Quivira area, possibly indicating that a number of tribes were not consulted during scoping. NPS recommends a follow-up with tribes previously determined to be culturally affiliated with the Native American human remains from Salinas Pueblo Missions National Monument under NAGPRA.

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7	Text has been modified in Section 3.8.2 of the FEIS to include tribal concerns and consultation meetings.
8	Text has been modified in Section 3.8.2.3 of the FEIS.
9	The Noxious Weed Management Plan will be finalized in the POD. Buffelgrass is identified on the noxious weed list and locations will be identified during pre-construction surveys along the ROW. The goal of the Noxious Weed Management Plan is to provide methods to control the potential occurrence/infestation of noxious weeds during and following construction of the project.
10	Tribal concerns regarding this Project are being compiled and will be documented in continuing tribal consultations and NHPA Section 106 process. Information on tribal concerns was obtained during several scoping meetings that were held in summer and fall of 2009, 2010, and 2012. Areas of concern identified by consulted tribes include Mount Graham; Bosque del Apache; Rio Grande; Mesilla Valley; Klondyke, Arizona; Deming, New Mexico; Salinas Pueblo Missions National Monument, including Gran Quivira; Duncan, Arizona; San Simon Valley; Sulphur Springs Valley; and San Pedro Valley. These areas are of concern for resource gathering and/or their proximity to Mount Graham.
11	Although 29 tribes were contacted, only 11 tribes have been actively engaged in consultation for this project. The tribes affiliated with Gran Quivira that have been engaged include the Pueblo of Isleta, the Pueblo of Ysleta del Sur and the Mescalero Apache.

12	1-11	4.9.2.3	4-136	NPS	This section invokes the mitigation and design features portion of the mitigation hierarchy. The third and final level of the mitigation hierarchy, compensatory mitigation, should be included here as well. Where residual effects on cultural resources are unavoidable, compensatory mitigation could be appropriate to offset impacts, but the concept and references should be stated here. BLM released a precedent-setting document with the solar PEIS describing proposed compensatory mitigation methods that could possibly be used on the proposed SunZia project.
13	1-12	Ch. 4	4-299 to 4-305	NPS	The EIS needs to address the new projects that may be built based on increased transmission line capacity; especially as they pertain to tribal concerns. NPS recommends addressing certain cumulative impacts during government-to-government tribal consultation. This comment applies throughout the document where cumulative impacts are discussed.
14	1-13	Ch. 4	4-305	NPS	First paragraph, last sentence: Add sentence about future mitigation measures for cumulative impacts. NPS recommends siting new solar and wind development out of Gran Quivira viewsheds.
15	1-14	Ch. 5	5-14 to 5-15	NPS	Cultural resource sections throughout the EIS focus primarily on archeological resources and largely ignore other types of cultural resources such as historic buildings, structures, objects, landscapes, and traditional cultural properties. Each of these other disciplines and facets of cultural resources need to be incorporated into the EIS. You may wish to consider adding additional consultant expertise – only anthropologists are credited with working on the Cultural and Historical Resources sections. This is not adequate to address (identify and evaluate) other types of cultural resources within the study area.
16	1-15	Ch. 5		NPS	There was very little local public notice when the project Study Area was expanded (engulfing the entire Gran Quivira unit) and the preferred alternative was pushed north of Gran Quivira. We suggest additional public outreach including public meetings be held in Mountainair or Estancia.
17	1-16	All	Through-out	NPS	The government-to-government tribal consultation process appears inadequate – were face-to-face meetings conducted? In addition, the list of consulted tribes seems exclusive vs. inclusive. Please contact the park or the IMR Office of Indian Affairs and American Culture. We would like to follow-up about the possibility of hosting a tribal consultation meeting at Salinas Pueblo Missions National Monument to help address the issue of locating the line near Gran Quivira and at the crossing of the Rio Grande.

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12	As stated in the DEIS "Selective mitigation was applied to all areas of high, moderate-high, and moderate initial impacts to reduce impact levels where necessary and effective, and where feasible based on the Project description. After the implementation of selective mitigation measures at various locations throughout the Project, residual impacts would be reduced to varying degrees depending on site specific circumstances (e.g., from moderate-high to moderate, from low-moderate to low, etc.)" (DEIS p. 4-137).
13	Text has been added to end of first paragraph (Section 4.17.4.8, pg. 4-305): Substantial cumulative effects to the cultural landscape of Gran Quivira could be avoided by siting new solar and wind development out of the affected viewshed.
14	Text has been added to end of first paragraph (Section 4.17.4.8, pg. 4-305): Substantial cumulative effects to the cultural landscape of Gran Quivira could be avoided by siting new solar and wind development out of the affected viewshed.
15	The list of preparers and contributors includes BLM and consultant cultural resource specialists. Several members of the study team have Bachelors, Masters and Doctoral degrees in Anthropology and Landscape Architecture.
16	Public notice was provided in April 2010 when the study area and scoping process were expanded to include the area north of the Gran Quivira unit in Lincoln and Torrance counties. Details of the scoping process are provided in the Scoping Report Addendum (BLM, September 2010). The notification included news releases to all regional media outlets on March 3,2010, SunZia Project Newsletter (#3) mailed to approximately 1,800 contacts on April 8, newspaper advertisements published in 15 publications including the Lincoln County News (April 15 and 22) and Mountain View Telegraph (April 15) announcing the public meeting that was held April 27, 2010 in Socorro, New Mexico. Ninety people attended the Socorro meeting. Public meetings were also held in Corona and Socorro, New Mexico after the release of the DEIS on June 26 and 27, 2012.
17	Please see section 3.8.4 for summaries of the 14 tribal consultation meetings held.

18	1-17	All	Through-out	NPS	Resource impacts from the perspective of the tribes and cultural communities are not addressed, including cumulative impacts. Cultural resource work does not appear to include ethnographic resources.
19	1-18	All	Through-out	NPS	Given the long human history in the project area, and if there will be ground disturbance as part of the project, please consider preparing a plan of action under NAGPRA in consultation with the tribes. The plan of action could be included in the appendix to address the likely encounter with Native American human remains. Please contact the park or the IMR Office of Indian Affairs and American Culture. .
20	1-19	All	Through-out	NPS	The BLM VRI/VRM data and general inventory work were only collected/assessed within 3 mi of the centerline (6 mi total). Given that the BLM foreground/middle ground distance is 3-5 miles, and given the size of the transmission towers, the area of analysis should extend farther than 3 mi from the centerline. The transmission lines will be seen quite a bit farther than that, and the SRM/VRI should be expanded accordingly. The Park Service requests consultation with BLM on selection of the relevant and additional KOPs.
	Section 2- Comments on Methods of Impact Analysis				
21	2-1	Ch. 2	2-5 to 2-6	NPS	The table notes that National Parks and Monuments are "exclusions" for environmental sensitivity. However, this table is only accounting for direct impacts. Although excluded from direct impacts, the Gran Quivira unit is highly sensitive in terms of indirect impacts. This section needs to be reconciled with Page 3-141, which states that Gran Quivira has high sensitivity.
22	2-2	Ch. 2	Table 2-10	NPS	Cultural resources surveys in the vicinity of El Camino Real de Tierra Adentro NHT should include the viewshed, not just the 400-foot right-of-way. This would be analogous to the "setting APE" concept developed during mitigation negotiations with the New Mexico Spaceport Authority that NPS and BLM helped to establish. NPS would gladly meet with BLM to discuss this issue and a method of resolution that the reference example potentially provides.
23	2-3	Ch. 2	Table 2-10	NPS	A variety of optical and geophysical remote sensing techniques, in combination with archival, documentary, and map research will be more effective than stand-alone field survey in identifying subtle trail remnants. BLM may wish to consider committing to additionally precise technologies in the Record of Decision and in any final decisions on alignments and mitigation.

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18	Information regarding tribal resources are documented in Section 3.8.4, and the ongoing tribal consultation process is documented in Section 5.4.2. Some ethnographic sources, such as new and existing ethnographic studies, field visits and meetings with concerned tribes, have been used and will continue to be used or developed as necessary and appropriate.
19	A NAGPRA Plan of Action will be developed in consultation with the tribes and included as an Appendix to the HPTP.
20	The BLM Visual Resource Management (VRM) system requires the inventory of scenic values and the establishment of management objectives for those values through a visual resource management planning process. The Visual Resource Inventory (VRI) was provided by the BLM to characterize the affected environment (Chapter 3.9.1.2) and is required for management and Project level decisions. Information was mapped within a 6-mile wide corridor, a sufficient distance to evaluate environmental consequences for VRI and project-level scenery units. A larger study area was evaluated for viewing locations and KOPs based on visibility of the Project where potential locations of the viewing public was identified (out to 4 miles from the Project centerlines and beyond). The BLM has coordinated with NPS regarding the Project and KOPs were identified for the Gran Quivira and scenic road which provides visitor access to the park. Additional KOPs were evaluated for the suggested alternative route located north of the preferred route near Gran Quivira.
21	The sensitivity criteria included in Table 2-1 of the DEIS were applied in the opportunities and constraints study, which was conducted in the scoping process to identify potential alternative corridors within the regional study area. National parks and monuments are considered to be "exclusion" areas, where new transmission line rights-of-way would be prohibited. As defined in the Cultural Resources Section 3.8.1, the cultural resources sensitivity criteria listed on page 3-141 were defined based on eligibility for listing, site type, and the presence of specific features (p. 3-140) in order to classify cultural resource sites according to their level of importance; national monuments are included in the highest sensitivity level (level 5 of 5), as noted.
22	During the Class III inventory, the visual effects to El Camino Real will be assessed within all APEs.
23	These techniques will be used during the inventory and treatment phases of the Project.

24	2-4	Ch. 2	2-109	NPS	Please indicate whether the "regional modifications" term refers to current or future changes in the landscape that may need evaluating under cumulative impacts.
25	2-5	Ch. 3	3-137	NPS	Text notes, "cultural-visual assessment for the Gran Quivira." However, no assessment is found. Section 3.8.4 does not contain a visual assessment for Gran Quivira. Please add.
26	2-6	Ch. 3	3-163	NPS	Salinas Pueblo Missions National Monument Cultural Landscape Study: Although this text is only a summary, it downplays the importance of Gran Quivira and its cultural landscape features. A better narrative to use is the Component Landscape Description of the CLI, which serves as an executive summary and provides greater detail about the inherent qualities important to the unit.
27	2-7	Ch. 3	3-163	NPS	Under the discussion of the CLI, please add that the New Mexico SHPO concurred that the views from Gran Quivira to the surrounding landscape are a contributing element to the property as a whole. These views also greatly contribute to the setting and feeling of Gran Quivira. SHPO concurrence on these views constitutes a consensus determination of eligibility on the National Register of Historic Places.
28	2-8	Ch. 3	3-163	NPS	Add that each of the 13 characteristics is broken down into features that were listed as contributing or non-contributing to the cultural landscape.
29	2-9	Ch. 3	3-163	NPS	Please add a discussion about how preferred alternative/proposed segments would impact Gran Quivira. What's the proximity to Gran Quivira? This information is provided for other cultural resources, such as trails, and a similar statement should be added for Gran Quivira.
30	2-10	Ch. 3	3-167	NPS	Text states, "More discussion of potential visual impacts to the Gran Quivira is discussed in Section 3.8.4." However, Section 3.8.4 is discussion on tribal consultation meetings, not visual impacts to Gran Quivira. This cultural-visual assessment is critical to the analysis and understanding of impacts to Gran Quivira.

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24	The term "regional modifications" refers to current or existing conditions (i.e., cultural modifications) in the larger or regional landscape setting. Text has been added to the end of the paragraph in Section 3.9.1.2, pg 3-176).
25	The methodology noted that a cultural-visual assessment for the Gran Quivira was conducted and detailed methodology is later outlined on page 3-139 (Visual Impacts to Historic Properties). Section 3.8.2.3 identifies Salinas Pueblo Missions National Monument as a cultural landscape and is subsequently followed by the study. There was no reference to a study in Section 3.8.4. In Chapter 4, the results of the assessment are in Section 4.8.3.2 (page 4-116).
26	The summary language in the FEIS was modified to include discussion of the Gran Quivira unit's NRHP categorization, significance criteria, and integrity, borrowing from the Component Landscape Description of the CLI, and shifting the emphasis from the condition of archeological resources to the aspects of integrity (setting, feeling, and association), and landscape characteristics (views and vistas), and other determinations relevant to the assessment of impacts to cultural-visual resources.
27	A description of viewer impacts is located in Section 4.9.3.1 of the FEIS.
28	A description of the 13 landscape element categories is included 3.8.2.3 of the FEIS.
29	A discussion of cultural resource impacts to Gran Quivira is included 4.8.3.2 of the FEIS.
30	See comment No.25 response.

31	2-11	3.9.1	3-175	NPS	Key observation points (KOP) were identified within 3 miles on either side of the reference centerline. How and why was the distance of 3 miles determined? Potential affects to visual resources could occur at any distance that the proposed facilities would be visible, not just within 3 miles. Proposed facilities may be visible from prominent and important view points on the eastern slopes of the Rincon Mountains Wilderness area within Saguaro National Park. We request that specific analysis be completed to determine if the power line and/or service roads would be visible from these location and distances. Possible KOPs for analysis would include Miller Creek Trail, Reef Rock Overlook, and Spud Rock Camp Ground Trail. NPS will identify exact KOP locations for BLM or their Contractor upon request.
32	2-12	Ch. 3	3-224, 3-231, 237	NPS	Please add National Park Service units to text related to Recreation. NPS units/monuments are recognized as recreation areas in Table 2-1 (pg 2-5 and 2-6), but discussion of NPS units related to recreation is not included in the DEIS.
33	2-13	Ch. 3 and Ch. 4	Various	NPS	Although KOPs are referenced throughout Chapters 3 and 4, there is no analysis of visual impacts to resources, particularly impacts to Gran Quivira. Although it is important to identify critical viewsheds, impact analysis of these viewsheds should also be addressed. The ideal place to include this would be the cultural-visual assessment for Gran Quivira (Section 3.8.4), which seems to be missing from the DEIS.
34	2-14	Ch. 3 and Ch. 4	Various	NPS	When the cultural-visual assessment is written, it would be helpful to assess the impact of each link segment separately, instead of lumping it together under the Subroute 1A1 (the preferred alternative). How far away is link 82 from Gran Quivira, compared to link 84 or link 85? Are all links visible from Gran Quivira or just link 84? This is the type of analysis and level of detail that would assist NPS and the public in determining the level of visual impact to the monument.
35	2-15	Ch. 4	4-112	NPS	Bullet list of impact levels only includes levels for those sites to be physically impacted by construction activities. What's the impact level methodology/ranking used for sites to be indirectly impacted? Please add text to address this issue.
36	2-16	Ch. 4	4-112	NPS	Additionally the DEIS notes that "Indirect or direct impacts to locations that are spiritually significant to tribes" could result in a significant impact to cultural resources. This would include Gran Quivira – a site and landscape with high significance to a number of tribes. This needs to be included in the cultural-visual assessment for Gran Quivira.
37	2-17	Ch. 4	4-114	NPS	Regarding the El Camino Real de Tierra Adentro, the section contains the sentence, "Given that the trail segments were not identified during field investigation, no

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31	See comment No.20 response, above regarding the study area for viewers and KOPs. After reviewing the suggested locations for KOPs, it was noted that the nearest recreation point/area is approximately 6 miles. At this distance, impacts would greatly decrease and, if visible, would likely result in a low impact.
32	The land use, special designations, and recreation sections 3.11.8, National Monuments and 3.10.3.4, Parks and Recreation have been revised in the FEIS to include a discussion of NPS units
33	Impacts to Gran Quivira were disclosed in the DEIS for both visual resources and cultural resources. See comment No.20 and No.25 responses.
34	The analytical process used to assess cultural-visual impacts is described in section 4.8.2 (Cultural Resources: Impact Assessment Methodology) Link/subroute-specific analysis of cultural-visual impacts has been prepared in sections 4.8.3 (Cultural Resources: Impact Analysis results). The method by which proposed project features are assessed for their contrast with the landscape character is described in section 4.9.2.1. Link/subroute-specific analysis of visual impacts has also been prepared in section 4.9.3.1 (subroute 1A1, 1A, Local Alternative Links for 1A and 1B – Gran Quivira,) Appendix D2 – Visual Contrast Rating Worksheets (KOPs SO31a and SO31b), and Appendix D6 – Simulations (1a, 1b, 47a, and 47b.). Additionally, impacts were disclosed pertaining to existing non-contributing features/cultural modifications identified in the CLI or through contractor analysis (ranches, windfarms, pipelines, unpaved roads), proposed alternatives, impacts to the Salt Missions Trail Scenic Byway, and Selective Mitigation measures that could be used to minimize impacts to cultural-visual resources.
35	Indirect impacts, including impacts to setting and feeling of historic properties, are evaluated based on visual sensitivity and contrast. This methodology is described in the DEIS on pgs. 113-114.
36	Potential impacts to Gran Quivira as a location, which is spiritually significant to tribes, have been identified in the tribal consultation process conducted by the NPS and the BLM.
37	Text in DEIS Section 4.8.3.2 (pg.4-115) has been modified to address visual impacts to trail integrity.

					impacts can be identified." NPS disagrees, as explained below. National Historic Trails are more than archaeological features. Even if there are no archaeologically identified trail resources, many eligible, listed, and nationally or locally designated historic sites exhibit no currently visible surface archaeological manifestations. With no tangible surface remains, non-feature sites must exhibit a high degree of integrity in location, setting, feeling, and location. Any undertaking that diminishes the integrity of a property along any of these aspects must be considered an adverse effect. The Bosquecito Road is a low-speed transportation corridor meandering along the Rio Grande past centuries-old ranchos built long ago in this setting, in large part because of the presence of El Camino Real de Tierra Adentro. The sense of history is palpable in this area. It would not be unusual to see someone riding a horse along Bosquecito Road, much as people did 250 years ago. The Bosquecito Road currently exhibits a high degree of integrity of location, setting, feeling, and association, giving visitors an "opportunity to vicariously share the experience of the original users of a historic route" (National Trails System Act 1968). The Bosquecito Road area does not look exactly as it did during the trail's period of significance (1598-1880). However, the National Register Bulletin 15 states: "All properties change over time. It is not necessary for a property to retain all its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity. The essential physical features are those features that define both why a property is significant (Applicable Criteria and Areas of Significance) and when it was significant (Periods of Significance)." The Bosquecito Road currently exhibits a high degree of integrity of location, setting, feeling, and association, giving visitors an "opportunity to vicariously share the experience of the original users of a historic route" (National Trails System Act 1968). Designation of a National Historic Trail is a rigorous process. The Park Service and Bureau of Land Management conducted exhaustive research, both documentary and in the field, to document the significance, integrity, and location of the El Camino Real de Tierra Adentro NHT as part of the feasibility study for its designation (NPS & BLM 1997). The language of the National Trails System Act of 1968 (as amended) states: To be designated as a National Historic Trail...) "It must be a trail or route established by historic use and must be historically significant as a result of that use. The route need not currently exist as a discernible trail to qualify, but its location must be

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	See following page(s)

					sufficiently known to permit evaluation of public recreation and historical interest potential." The trail was determined to be nationally significant (NPS & BLM 1997:9ff) in terms of National Historic Trail criteria—a much more restrictive standard than National Register of Historic Places criteria. Congress agreed, designating El Camino Real de Tierra Adentro NHT in 2004. We believe that the Bosquecito Road area meets all the National Historic Trail criteria as a segment of El Camino Real de Tierra Adentro on its own, particularly because the law states "It must be a trail or route established by historic use and must be historically significant as a result of that use. The route **need not currently exist as a discernible trail to qualify**, but its location must be sufficiently known to permit evaluation of public recreation and historical interest potential" (emphasis added). El Camino Real de Tierra Adentro National Historic Trail is present in the area of potential effects for the planned project. The trail has been shown to be nationally significant. The project will adversely affect trail resources, the setting of the trail, and its association, feeling, and location over a large area of the trail setting. We do not believe that these effects can be fully mitigated short of undergrounding the transmission line within the trail's setting. If the SunZia line is built along the agency preferred alternative, mitigation measures should be rigorously designed to include effects within the setting APE, and adequately funded to accomplish a variety of identification, protection, and interpretation measures along the trail. NPS is willing to contribute expertise in mitigation discussions and designs with BLM.
38	2-18	Ch. 4	4-116	NPS	Following the extensive explanation of visual resources methodology and visual quality impacts evaluation earlier in the document, the descriptions of findings are very cursory and unexplained. Just saying that the finding of the evaluation process was a "weak contrast rating" for visual impact of the transmission line on the historic viewshed of Salinas Pueblo Missions NM is insufficient. Readers need to know what "weak contrast rating" looks like, including a visual simulation. The long explanation of VQM evaluation process could perhaps go in an appendix. Also, see NPS Comments: Section 6 – Visual Simulation Comments

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38	As described in comment No.34, Link/subroute-specific analysis of visual impacts has also been prepared in section 4.9.3.1 (subroute 1A1, 1A, Local Alternative Links for 1A and 1B – Gran Quivira,) Appendix D2 – Visual Contrast Rating Worksheets (KOPs SO31a and SO31b), and Appendix D6 – Simulations (1a, 1b, 47a, and 47b.) Contrast ratings used in the assessment areas defined in section 4.9.2.1. so the reader can understand how we assessed the project to determine impacts. Detailed description of the contrast rating assessment was provided in visual appendix D – Contrast Rating Worksheets. The findings were summarized in the DEIS and several simulations were prepared to demonstrate the range of potential contrast and impacts for the project.

39	2-19	Ch. 4	4-116 to 4-118	NPS	Please add text to note to include the fact that the existing modern features ranches, residences, and NM Highway 55 are of a smaller, human-scale compared to the industrial scale of the proposed transmission line. It would be helpful to clarify that the existing wind turbines are only partially visible from Gran Quivira, and only under certain clear weather conditions. The proposed transmission line would be closer to the monument than the wind turbines and has the potential to be more fully visible under many more weather and lighting conditions from the monument.
40	2-20	Ch. 4	4-116 to 4-118	NPS	This section also needs to include the tribal considerations at Gran Quivira. The DEIS notes that "Indirect or direct impacts to locations that are spiritually significant to tribes" could result in a significant impact to cultural resources (pg 4-112). This would include Gran Quivira, an ethnographic resource with high significance to a number of tribes. This needs to be included in the cultural-visual assessment for Gran Quivira.
41	2-21	Ch. 4	4-116 and 4-142	NPS	Overall, these sections should note the following: 1. Visual impacts to Gran Quivira will be indirect, but permanent. 2. Gran Quivira is a high sensitivity site with a high impact level (as defined on pg. 4-112). 3. Gran Quivira is a site with spiritual significance to tribes, and the proposed project could have significant impact to the area, the tribes, and those associated values. 4. Gran Quivira's cultural landscape retains high integrity with contributing views that will be impacted by this proposed project. Although the DEIS notes a weak contrast rating for the level of change for the cultural-visual analysis and a low impact rating for the visual resources at Gran Quivira, these ratings do not consider the above factors. The factors above need to be considered and wholly evaluated in analyzing impacts to the monument.
42	2-22	Ch. 4	4-142	NPS	Please add text to note that existing ranches, residences, and NM Highway 55 are of a smaller, human-scale compared to the industrial scale of the proposed transmission line. Also add text to clarify that the existing wind turbines are only partially visible (and under only certain weather and lighting conditions) from Gran Quivira. Add note that the pipeline is underground. Please add text to note the proposed transmission line would be closer to the monument than the wind turbines and has the potential to be more fully visible from the monument.

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39	The text referring to modifications identifies those changes that are evident in the landscape so the reader understands the existing condition and proposed change through the introduction of the Project. As noted in the DEIS Section 4.8.3.2, the "setting includes character defining and contributing features such as spatial organization, land use, vegetation, topography, circulation and small-scale features in addition to the character of lands…", and "existing modern features such as wind turbines, ranches, and NM Highway 55 are considered non-contributing components…" (pg. 4-116). The wind farm is visible from Gran Quivira under atmospheric conditions that are typical for the region.
40	Information regarding tribal resources are documented in Section 3.8.4, and the ongoing tribal consultation process is documented in Section 5.4.2.
41	Text will be modified to indicate that based on 3.8.1.2, SAPU NM is a High Sensitivity Level site within the study area. Gran Quivira was included in the cultural impacts analysis due to its status as a NRHP site from which visual impacts were expected. Impact Level categorization methodology considers impacts to archeological sites that are physically affected by construction. Because the proposed project does not *physically* affect the Gran Quivira unit due to construction disturbance, but potentially impacts its cultural landscape setting, the site has not been characterized by Impact Level, but rather by the visual contrast of proposed alignments, and impacts to the views and vistas in relation to existing contributing and non-contributing features, as described in 4.8.2: Evaluation of Visual Impacts to Historic Properties, and 4.8.3.2: Cultural-Visual Assessment Associated with the Gran Quivira. The CLI alternately describes the unit as being in fair (p.4) or good (p.100 condition), and that it "retains integrity" (p.4). Section 4.8.3.2: Cultural-Visual Assessment Associated with the Gran Quivira describes existing, "non-contributing components to the views and vistas of the cultural landscape". Text will be modified to clarify condition and integrity of site, and contributing/non-contributing features. Text will be modified to assess impacts to contributing features (views and vistas). The contrast rating is an evaluation of the level of visual change or contrast would be introduced into the existing landscape by the project. This level of contrast is the baseline for the determination of impacts regardless of viewer type or sensitivity. For example, the level of contrast would not change given the presence or absence of viewers. It is the baseline visual change what would occur in the landscape as a result of the project.
42	See comment #39. To add "underground" before pipeline in first sentence of paragraph under *Impacts to the Gran Quivira Unit of Salinas Pueblo Missions National Monument*. As stated in the DEIS (Section 4.9.3.1), the project would be visible but would be subordinate in the landscape.

43	2-23	Ch. 4	4-142	NPS	The DEIS is unclear whether juniper woodland will be cleared, adding to visual impacts to the landscape from Gran Quivira. The first paragraph states some clearing (needed for new access roads) would add additional contrast within the landscape. Later paragraphs say the proposed project can be screened from view from Gran Quivira with existing vegetation. Based upon text in the document, visual simulations, and on-site observations, certain clearing for access roads and some right-of-way for the transmission line would be quite visible from Gran Quivira. The section is unclear about the level of visual change/impact to Gran Quivira.
44	2-24	4.9.3.3	4-165	NPS	Text reads "Impacts are anticipated to be low-moderate to low for dispersed recreation users associated with the Rincon Mountains Wilderness, Saguaro National Park (East)..." Because no KOP's were identified or analyzed for views from within this area, how was this determination made? Please clarify and describe.
45	2-25	Ch. 4	4-303	NPS	How does "weak contrast rating" relate to degree of impact? This relationship needs to be made clear (e.g. if the contrast were mitigated as suggested in the text, would this make the difference between "some impact" and "no impact"?).
46	2-26	Ch. 4	4-299 to 4-305	NPS	The entire section of cumulative impacts for cultural resources largely ignores the current setting and context of the Gran Quivira unit at Salinas Pueblo Missions NM. To the north of the park, a wind farm already exists. Building this transmission line in conjunction with the already-existing wind farm gives a snapshot of the potential for future renewable energy development in the area, thus contributing to substantial cumulative impacts to the NPS unit.
47	2-27	Appendix D4 and D5		NPS	The high levels of view duration, use volume, aesthetic concerns, and presence of scenic and historic resources at Gran Quivira that are presented in these charts are not reflected in the discussion and impact analysis in Chapter 4. The result is a disjuncture between the significance of Gran Quivira and the level of projected low impacts. Clarify and rephrase discussion. We suggest BLM re-analyze effects using full issue consideration from above.

1605	Response to Comment
43	Based upon consultation with project engineers, it is expected that links 83 and 84 will be associated with access roads within the project ROW. Additional vegetation clearing for the entire ROW is not anticipated for construction, operation, and maintenance of the project.
44	As defined in Section 4.9.2.1, pg 4-134, “weak” contrast is discernible (visible) but subordinate (does not attract attention) in the landscape. Also see comment #31 response.
45	The relationship between contrast rating and degree of impact is described in section 4.9.2.1 (Visual Resources: Impact Assessment Methodology: Assessment Techniques: Contrast: Impacts to Viewing Locations (viewers) and KOPs.)
46	The BLM Preferred Route was modified in the FEIS to minimize visual impacts to Gran Quivira.
47	It is well documented throughout the DEIS that the Gran Quivira is a highly sensitive visual resource. The results of the impact analysis are indicative of the sensitivity attributed to the setting and context.

48	2-28	Appendix D6		NPS	At what height are the towers in the pictured simulations calculated at for the Salinas Pueblo Missions NM? 135 feet? How many transmission lines are shown? 2 lines? Methodology and assumptions made during the creation of the simulations need to be documented (i.e. right of way width, tower height, number of transmission lines, tower placement, etc). From several on-site visits to the lands north of Gran Quivira and even further north of the BLM's preferred alternative, many options exist to perform relatively detailed design assumptions and height determinations of proposed towers. Please provide greater detail with more reasonable assumptions.
49	2-29	Overall		NPS	El Camino Real de Tierra Adentro NHT is a nationally significant cultural and historic resource, including the area within the SunZia study area. The nature and extent of the impacts of this project on El Camino Real de Tierra Adentro NHT need additional documentation and evaluation. Because of the limited extent of the cultural resources investigations in this DEIS, NPS believes that it is reasonable and foreseeable to assume that the direct, indirect, and cumulative adverse impacts from this project and associated activities upon the trail will be significant.
50	2-30	Overall		NPS	There is only limited mention of potential impacts to Saguaro NP wilderness areas with analysis of these potential impacts. The BLM preferred alternative route would parallel the eastern boundary of Saguaro NP East and its designated wilderness by less than 4 miles, and would be within the wilderness viewshed. We request more in-depth analysis to determine if and where the power line and/or the service roads required for it would result in a negative impact to the visual resources viewed from prominent viewpoints on the eastern side of the Rincon Mountains within Saguaro NP.
	Section 3 – Comments on results of Impact Analysis				

1605	Response to Comment
48	The structure dimensions (assumed typical height, span, sag, etc.) are noted on each simulation layout. See Appendix D-6.
49	An inventory and analysis of National Historic and Scenic Trails is appended to the FEIS, Appendix L. Also see comment No.37.
50	See comment #31 response

51	3-1	Ch. 2	2-109	NPS	Visual Resources for line 1A/1A1: The table states, "Low impacts are anticipated for Gran Quivira viewers, and this route would be viewed in context with other regional modifications (wind farm, pipeline, etc.)" Please add text to clarify both the determination and the definition of "low impact". Additionally, although the proposed alignment to the north of the park would generally follow some existing landscape modifications, the pipeline is underground and not visible. Labeling it a regional modification that minimizes future impacts is inaccurate. Other "modifications," such as the wind farm, are relatively far off in the distance (farther away that the proposed transmission lines would be) and are only partially visible from Gran Quivira. The proposed transmission lines are also of an industrial scale compared to the residential/human-scale of nearby farms, ranches, roads, etc. Overall, the visual resource impacts to Gran Quivira are inadequately represented within this discussion. NPS requests a more robust discussion of the contributing modifications of the landscape and clearly describe the scale, and thus the potential impacts, to viewers (visitors) at the site. Also see NPS Comments: Section 6 – Visual Simulation Comments
52	3-2	Ch. 4	4-116 to 4-118	NPS	DEIS notes that impacts to Gran Quivira would have a weak contrast, meaning impacts to integrity of the historic property would be negligible. Given Gran Quivira's significance and status as a national monument, impacts will be (at a minimum) weak-moderate, where integrity of the historic property could be diminished. Please re-consider contrast statements in full light of Gran Quivira's significance and status.
53	3-3	Ch. 4	4-116 and 4-142	NPS	Gran Quivira is a high sensitivity site even though it's not directly within the right-of-way corridor. Its designation as a national monument, listing on the National Register, and unit of the National Park Service in conjunction with sensitive cultural and ethnographic resources warrant further consideration as a high sensitivity site of cultural and visual importance.
54	3-4	Ch. 4	4-184	NPS	Please add references to NPS units/monuments to the applicable Recreation and Land Uses sections. Park Service units/monuments are recognized as recreation and land use areas in Table 2-1 (pg 2-5 and 2-6), but discussion of NPS units related to recreation/land use is not included in the DEIS. Impacts to Gran Quivira in terms of recreation/land use would be "high-moderate" since it would be "adjacent to any designated recreation or preservation use area." (pg. 4-184).

1605	Response to Comment
51	The purpose of this table is to summarize the information that is detailed in Chapters 3 and 4 so that the reader can make a comparison of the issues by route. Impacts to Gran Quivira are disclosed in Chapter 4 so additional clarification would not be necessary in this summary table.
52	Contrast is one component of the visual resource impact analysis, which is based on the perceived physical change when features are placed in the landscape. The results of the impact study take into account the significance of viewers and setting, but do not change the contrast assessment.
53	The impacts to Gran Quivira, as a high sensitivity site located within the viewshed of the proposed Project, have been analyzed.
54	The land use, special designations, and recreation sections 3.11.8, National Monuments and 3.10.3.4, Parks and Recreation have been revised in the FEIS to include a discussion of NPS units

55	3-5	Ch. 4	4-303	NPS	The text notes "Two of the four route alternatives developed for a reroute around the Monument would have a visual-cultural impact." The Park Service believes that all four alternatives have a potential visual-cultural impact on Gran Quivira because all of the proposed alignments are visible from the monument?
56	3-6	Ch. 4	4-303	NPS	Additional possible mitigation measures for impacts to Gran Quivira would include siting the proposed transmission line farther north, completely out of the Gran Quivira viewshed, but within the DEIS's Study Area. See proposed NPS optional alignment for consideration/ mitigation.
57	3-7	Ch. 4	4-303	NPS	The text states "other projects such as the High Lonesome Mesa Wind project and the development of the visitor center and park facilities already contribute to the incremental cumulative impacts." This is incorrect. The Lonesome Mesa Wind is only partially visible from the Gran Quivira unit, and the visitor center and park facilities are intentionally sited so that they are out of view from the Gran Quivira ruins, in addition to being smaller in scale (i.e. not industrial in scale like the proposed transmission line). The visitor center and parking lot do not impact the setting or the views. And the wind turbines, because only partially visible and sited at a distance away, have a limited impact on the setting and viewsheds of the unit. Overall, the views to the north are substantially unaltered with some minor modifications
58	3-8	Ch. 4	4-299 to 4-305	NPS	This section does not address impacts to viewsheds from/to cultural resources. Viewsheds from/to a cultural resource (such as Gran Quivira) should also be listed as an impact to cultural resources.
59	3-9	Ch. 4	4-305 to 4-313	NPS	We could find no mention of cumulative impacts to Gran Quivira under Visual Resources or Recreation/Land Use Resources. Please add.
60	3-10	Ch. 4	4-305 to 4-313	NPS	Additional discussion of impacts to Gran Quivira at Salinas Pueblo Missions NM is warranted given the proximity to existing wind development and two identified Qualified Resource Zones to the east and west of the NPS unit. The potential for cumulative impacts to the area around Gran Quivira is high.
61	3-11	Ch. 4	4-307-4-308	NPS	The text mentions that if wind development to the northeast of the SunZia East substation (NM-EA) were built, additional transmission lines would need to be built, resulting in substantial cumulative impacts to the landscape. This is the area surrounding Gran Quivira at Salinas Pueblo Missions NM, and Gran Quivira needs to be in this text.

1605	Response to Comment
55	Text in Section 4.17.4.8 has been modified in the FEIS to clarify the description of cumulative impacts.
56	Comment noted (Proposed NPS optional alignments were considered by BLM).
57	The existing wind turbines, as well as the proposed transmission lines, would be seen in varying portions of the view from Gran Quivira. Views from the Gran Quivira ruins as well as views from the roadways, residences and other facilities contribute incrementally to cumulative impacts. The wind farm which is visible from Gran Quivira is at a much larger scale than the proposed project. It is considered an industrial project and substantially alters the landscape setting.
58	This is addressed in the cultural-visual assessment Section 4.8.3.2 of the DEIS. The impact to the landscape setting is the primary discussion of this section.
59	Impacts to Gran Quivira are addressed on page 4-305 of the DEIS. Also see comment No.14.
60	See comment #59 response
61	The area identified for future wind development located northeast of the proposed SunZia East Substation would not likely include the viewshed associated with the Gran Quivira.

62	3-12	Appendix D4	D4-1	NPS	Because all of the Concern Levels are listed as high (Use Levels, Overall Concern Level, etc), we suggest that BLM consider and evaluate an option of placing the line further north past the E84 proposal. A line considered near the northern edge of the study area could be completely hidden from the park's (Gran Quivira unit) view. Park Service staff has identified an optional alignment (see Figure 1) north of the BLM's preferred alternative (E84). On-site observations indicate that line could be sited in that area to substantially reduce potential impacts.
63	3-13	Overall		NPS	The Park Service is concerned about the incremental fragmentation of relatively undisturbed habitat outside of the eastern boundary of Saguaro NP. The cumulative effects have potential to cause decreased ecological function in the San Pedro River Valley. Impacts to wildlife by disrupting intact movement corridors and the disruption of vegetative communities may lead to cumulative degradation of these lands that provide ecological services and human benefit. Minimizing the ROW, width and distance of access roads, and the overall construction footprint would help to limit these impacts. Please address cumulative impacts to the subject area.
		Section 4 – Specific Suggestions for Route Alignment			
64	4-1	Ch. 4	4-117	NPS	The Park Service recognizes the potential for significant loss to the historical integrity of Gran Quivira and has conducted an extensive reviewed the BLM's preferred alternative, the regional surroundings, and potential tower placement. The Park Service has identified an optional alignment for transmission line and optimal tower placement along links E84-85 in the northern portion of the study area (Figure 1). The DEIS mentions that impacts to the views from Gran Quivira can be mitigated with measures such as special tower design and placement. The Park Service generally agrees with this statement but believes that optimal placement of the transmission line itself within the study area is a better choice than just applying mitigation; yielding the avoidance of potential impacts. The Park Service staff conducted two regional tours north off BLM's Link E84 preferred alignment in July 2012 to observe potential residential conflicts in the proposed alignment, and also considered potentially affected landowners. NPS confirmed that the proposed alignment is in accord with BLM's objective of minimizing residential impacts. NPS can provide discussion, maps, and contact information for potentially affected residents through the cooperating agency relationship with BLM.

1605	Response to Comment
62	Comment noted. (Proposed NPS optional alignments were considered by BLM).
63	Section 4.17.1 references cumulative impacts to Saguaro National Park and other areas affected by urban expansion. Potential impacts to the San Pedro River Valley and potential mitigation measures are discussed throughout Section 4.6.
64	See response to comment No.62.

					In July 2012, NPS initiated government-to-government consultation regarding an optional alignment of the transmission line north of Gran Quivira with the fifteen tribes culturally affiliated with Gran Quivira. Ten representatives from three tribes (Mescalero Apache, Pueblo Isleta, and Isleta del Sur) attended a site visit and meeting on August 2, 2012. The tribal representatives visited sacred sites in the unit, discussed alternate line routes with NPS staff, and held an executive session. All three tribes confirmed the importance of retaining integrity at Gran Quivira and gave verbal support to the northern optional alignment proposed in Figure 1. We will be happy to share the results of our research with BLM. The primary concern revealed in the query relates to cultural resources at the Tenabo and Abo units at Salinas Pueblo Missions National Monument sites. If either the link E84, E85, or even the NPS optional alignment is shifted too far to the northwest, conflict may arise with these sites. NPS recommends continued close consultation among BLM, NPS, and Department of Defence (DOD) regarding northward alignments of the line to avoid impacts to Tenabo and Abo. The Park Service also queried the New Mexico SHPO ARMS database, identifying cultural resources that could be impacted by the optional northern alignment. We will be happy to share the results of our research with BLM. The primary concern revealed in the query relates to cultural resources at Tenabo and Abo at Salinas Pueblo Missions NM sites. If either the Link84, E85, or even the Park Service optional alignment is shifted too far to the northwest, conflict may arise with additional potential impacts. The Park Service recommends continued close coordination among BLM, NPS, and Department of Defense (DOD) regarding any northward re-alignments of the transmission line.

1605	Response to Comment
	See following page(s)

65	4-2	Overall		NPS	In order to limit potential impacts to the wilderness and visual qualities of Saguaro NP, please consider the following for siting facilities and facility features: For the area of the proposed route east of Saguaro NP East within the San Pedro River Valley, we request that all project facilities (power line, support towers, access roads, etc.) be placed on eastern facing slopes and not be placed on ridgelines in order to reduce the potential for them to be prominent in the viewshed of the park and wilderness areas of the park. Additionally, we request that lighting on any of the project features be eliminated from consideration in this area as well in order to protect the night sky and visual resources of Saguaro NP. The Park Service believes this needs to be a requirement of the project in order to protect these resources into the future.
	Section 5 – Detail Issues (missing text, errors in location, identification, direction, etc.)				
66	5-1	Executive Summary	ES-1	NPS	Acronym for the U.S. National Park Service (NPS) is missing. Please add to text.
67	5-2	Glossary	4	NPS	"Cultural Resources" needs to include cultural landscapes
68	5-3	Executive Summary	ES-11	NPS	Text reads "Impacts to views from Peloncillo Mountains and Rincon Mountains wilderness areas could occur." Please change text to "...Saguaro National Park Rincon Mountains wilderness areas..."
69	5-4	Ch. 2	2-109	NPS	Add Gran Quivira unit to the Land Use, Recreation, and Special Designations for potential impacts. As a national monument, Gran Quivira is a specially designated unit, set aside by the President. Do Special Designations refer only to those designated properties owned by BLM? Please clarify throughout.
70	5-5	Ch. 2	2-119	NPS	Please indicate the 5-mile buffer around Gran Quivira on this map is a DOD feature, and not generated or managed by NPS. Also it would be helpful to label the two "Other Alternatives" south of Gran Quivira with an updated label. As shown with a dashed black line, it appears that these alignments are taken off the table for discussion, even though they clearly remain as local alternatives discussed in the text. Please revise maps for clarity.
71	5-6	Ch. 2	2-125	NPS	The map does not show full extent of the BLM preferred alternative, to the north of the Gran Quivira unit of Salinas Pueblo Missions NM.

1605	Response to Comment
65	Suggestion regarding ridgeline avoidance noted, and would be considered in the engineering process. Lighting would not be necessary on the towers unless, under certain conditions, the towers would exceed a height of 200 feet which would require lighting by FAA regulations. These types of heights are not anticipated for this portion of the route.
66	Text has been modified in the Executive Summary of the FEIS as suggested.
67	Comment noted. Text has been modified to include cultural landscapes in the glossary.
68	Section ES4.11 refers specifically wilderness and wilderness study areas.
69	The land use, special designations, and recreation sections 3.11.8, National Monuments and 3.10.3.4, Parks and Recreation have been revised in the FEIS to include a discussion of NPS units.
70	Legend in Figure 2-33 has been modified to indicate military 5-mile buffer. Other alternatives are shown to illustrate all routes analyzed in the DEIS.
71	Figure 2-36 shows the proposed BLM Socorro RMP amendments; the extent shown on map was limited to the areas where RMP amendments are located.

72	5-7	3.8.2.3	3-162	NPS	The list of prehistoric features associated with Salinas Pueblo Missions NM should read "pueblos" instead of "a pueblo." There is more than one pueblo at Salinas Pueblo Missions NM.
73	5-8	Ch. 3	3-163	NPS	"Cultural Landscape Study" should be replaced with Cultural Landscape Inventory (CLI). A CLI is a specific document that obtains Park Superintendent and SHPO concurrence. General cultural landscape studies do not.
74	5-9	Ch. 3	3-167	NPS	Subroute 1A1 – BLM Preferred Alternative: There appears to be conflicting information. The last paragraph on the page states, "Gran Quivira is located approximately 6 miles south of Subroute 1A1". Other text in the document states it's approximately 4 miles south of Subroute 1A1. Please provide the correct measurement.
75	5-10	Ch. 3	3-174	NPS	Please include the consultation meeting with tribes on April 2012 (see page 1-11).
76	5-11	Ch. 3	3-177	NPS	Please change the text to reflect specific conditions at Salinas Pueblo Missions NM, rather than just stating "a National Monument" because this is the only national monument within the project area.
77	5-12	Ch. 3	3-192	NPS	The format of this section differs from previous sections, which specifically call out the subroutes and BLM preferred alternative. In this section, the text refers to local alternative links for subroutes 1A and 1B1 – are these the same as subroute 1A1 and 1B1 discussed previously? Why are both discussed, if referring to same area/routes? Please clarify.
78	5-13	Ch. 3	3-261	NPS	The text states there are no national monuments near Route Group 1 subroutes. However, Subroute 1A1 (the preferred alternative) directly passes near Gran Quivira. Route 1A1 is not addressed here. The text immediately below it (referring to local alternative and crossover links) states that there are national monuments near E81 and E83. Again, this doesn't address links E82, 84, and 85 that are part of the preferred alternative. Please clarify.

1605	Response to Comment
72	Text in FEIS has been modified to correct the reference to pueblos.
73	Text in Section 3.8.2.3 has been revised to correct the name of the cultural landscape inventory.
74	Text in Section 3.8.3.1 has been modified to state that Subroute 1A1 is approximately 4.25 miles north of the Gran Quivira.
75	Text in Section 3.8.4 has been modified to include April 2012 meeting.
76	This section in 3.9.1.2 describes the inventory methods for the SunZia Project study area, and references a "national monument" to indicate any national monument that is located within the study area.
77	In response to NPS suggestions, section 4.9.3.1) of the DEIS addresses all the alternative routes near Gran Quivira (Subroute 1A, 1A1, 1B1, and the local alternatives include links E81, E82, E83, E84, and E85).
78	The land use, special designations, and recreation sections 3.11.8, National Monuments and 3.10.3.4, Parks and Recreation have been revised in the FEIS to include a discussion of NPS units

79	5-14	Ch. 4	4-116	NPS	The first sentence states, "The cultural landscape studies evaluate setting, as one of several landscape characteristics that comprise cultural landscapes." This is incorrect. Setting is *not* one of several landscape characteristics, but is an aspect of integrity as defined in the National Register of Historic Places. The National Register defines setting as the physical environment of a historic property. It refers to the character of the place in which the property played its historical role. The landscape characteristics (spatial org, vegetation, views, topography, land use, etc) are a *part* of setting, but setting is not a landscape characteristic as defined by the Cultural Landscape Inventory process. Please clarify/correct section. Please also change "cultural landscape studies" to "Cultural Landscape Inventory."
80	5-15	Ch. 4	4-144	NPS	Please clarify that this is Route 1a within 6 miles to the south of Gran Quivira – not the proposed alternative, Subroute 1A1.
81	5-16	Ch. 5	5-7	NPS	The Park Service is missing from the list of contacts with agencies within the table.
82	5-17	Appendix A	A-4	NPS	Sensitivity levels in the table do not match sensitivity levels presented in Ch. 2. Please add NPS parks/monuments to Cultural Resources and Visual /Recreation Resources categories. Charts on page A-4 and page 2-5 should be the same.
83	5-18	Appendix A	A-11 to A-12	NPS	NPS units/monuments are not included as Visual and Recreational Resources within this chart. However, they are included on the chart in Chapter 2 (page 2-5). Please also include NPS units as Visual and Recreational resources.
84	5-19	Appendix A	A-13	NPS	The chart is confusing in terms of National Register properties. Line 3, column 1 lists only buildings, structures, and objects, and line 6, column one lists sites and districts. All are National Register property types. You may wish to consider revising line 3 to "individual properties" and add a note mentioning that sites and districts are included as a separate line below.
85	5-20	Appendix A	A-13	NPS	"El Camino Real" is referenced, and should be listed as "El Camino Real de Tierra Adendro NHT." "El Camino Real" is a common street and trail name, and NPS administers another Camino Real National Historic Trail in Texas, El Camino Real de los Tejas NHT. To avoid confusion, please use the full name of El Camino Real de Tierra Adentro National Historic Trail in all references to it within the documents and maps.
86	5-21	Appendix A		NPS	The figures and maps in Appendix A do not show all of the considered alignments. They also omit the preferred alternative.
87	5-22	Appendix A	A-35	NPS	The Gran Quivira unit of Salinas Pueblo Missions NM is difficult to identify on this plan. Please label.

1605	Response to Comment
79	Text has been modified to clarify that "setting" is one aspect of integrity for historic properties under the NHPA.
80	The discussion refers to Subroute 1A under the heading "Subroute 1A-North River Crossing" (pgs. 4-143 through 4-144), which is located to the south of Gran Quivira at a distance of 6 miles.
81	National Park Service is included in the list of cooperating agency Table 5-6, "Cooperating Agencies". Table 5-8 includes the list of other agencies.
82	The Opportunity and Constraints Analysis (Appendix A) was prepared during the scoping process to identify potential alternative corridors prior to corridor studies conducted for the DEIS, and did not include supplemental data or analysis.
83	Please see response to comment no. 82.
84	Please see response to comment no. 82.
85	Please see response to comment no. 82.
86	Please see response to comment no. 82.
87	Please see response to comment no. 82.

88	5-23	Appendix A	A-21	NPS	The table does not include Subroute 1A1 (the preferred alternative) or links E82, 84, or 85, which are adjacent to Gran Quivira at Salinas Pueblo Missions NM. Please add to table.
89	5-24	Appendix C		NPS	The table does not include Gran Quivira at Salinas Pueblo Missions NM (LA120). Given its proximity to the study area, it should be included as a previously recorded site.
90	5-25	Appendix D5 and D6		NPS	There appears to be conflicting information. The simulation states link E84 is approximately 4.3 miles away (photograph location caption), while chart in Appendix D5 (pg D5-2) says E84 is 4.2 miles away. Which is correct?
91	5-26	Appendix H	H-39	NPS	Table H-8 - Impact Levels for Cultural Resources notes "Visual Cultural Impact: Less than 1.5 miles from Gran Quivira" for links E82-E83-E84. In Appendix D5, a 2-mile impact is noted for E83 and an approximately 4-mile visual impact for E84. The visual impact distance for link E85 should be identified here as well. The 2-mile and 4-mile distances for E83 and E84 are consistent throughout the DEIS, with the exception of Appendix H.
92	5-27	Appendix H	H-44 and H-50	NPS	Gran Quivira not addressed under Table H-9, Impact Levels for Visual – Scenic Quality Resources. Please add.
		Section 6 - Visual Simulation Comments			
93	6-1	Chap. 3 & 4	Overall	NPS	Although the visual simulations presented in the DEIS are technically accurate and realistic for the particular sites, conditions, and materials chosen for the analyses, NPS requested numerous other and more detailed simulations for areas close to NPS units. Three subroutes of the project approach Gran Quivira. Subroute 1A1, the preferred BLM alternative passes to the north of the Gran Quivira unit. Subroutes 1A and 1B1 pass south of the Gran Quivira unit, and are identical for the portion of the subroute relevant to this discussion. Subroute 1A1 has a local alternative that passes closer to the Gran Quivira unit on the north side, while Subroutes 1A and 1B1 have a local alternative that passes closer to the Gran Quivira unit to the south. Simulation 1a shows Link E80C, part of Subroute 1A – North River
					Crossing, the southernmost of the four possible subroute alternatives. Simulation 1b shows Link E81, part of Subroute 1A – North River Crossing, the subroute passing closest to the Gran Quivira unit to the south. Simulation 47a shows Links E83, E85, and E80d, part of Subroute 1A1 –River Crossing (Northern, the subroute passing closest to the Gran Quivira unit to the north. Simulation 47b shows Links E84, E85, and E80d, part of Subroute 1A1 – North River Crossing, the nothernmost of the four possible subroute alternatives, and the BLM

1605	Response to Comment
88	Please see response to comment no. 82.
89	Table in Appendix C only includes sites recorded within the study corridor for the Class I inventory, which is 1-mile wide.
90	Appendix D5 has been revised to indicate 4.3 miles.
91	Comment noted. Text has been modified.
92	The units described in this table pertain to scenic quality. The landscape near Gran Quivira is described in these tables.
93	Comments regarding the relative visual impacts to the Gran Quivira unit of the various alternatives concur with the findings of the DEIS. Technical comments regarding Simulation 42 are generally accurate regarding differences in sun angle and resultant lighting angle on proposed activities (transmission towers) over the course of a year. There is a general preference for collecting visual simulation photo data on dates that are more representative of conditions throughout the year due to the visual appearance of landscape features such as vegetation and snowfall. It should be noted, however, that simulation viewing locations and directions are chosen based upon likely viewing locations of users, potentially impacted resources, the location of the Project or its alternatives, and the degree to which the simulation can representatively illustrate similar visually sensitive viewing locations, and are chosen regardless of cardinal direction. Photo data were collected on days that represent typical viewing conditions within reasonable limitations of weather and seasonal variations. Similarly, technical comments regarding Simulation 42 are generally accurate regarding the lessened contrast of guyed-V towers in a landscape that contains plants of similar vertical line and form characteristics, in comparison to one that does not. However, in the southeastern Tucson basin, both saguaro and ocotillo are common plants of the Upper Sonoran life zone that spans the I-10 corridor between the Rincon and Santa Rita mountains. Also, throughout the southeastern Tucson basin (generally defined as the area between Vail, Corona de Tucson, Tanque Verde Rd., and Saguaro NP East), numerous man-made elements such as the houses, recreational structures, and industrial structures found in Simulation 42 are typical in the field of view from any location, and are particularly common from superior viewing locations such as KOP TU16. In addition, the viewing location of Simulation 42 was chosen due to the sensitivity of the view, based upon the high visitor use and scenic quality of the Tanque Verde Ridge Trailhead. Other simulations, including nearby 40a, and 40b, consist of views that are simpler (in vegetative form,) more pristine, and containing fewer man-made elements. Viewing distances are stated below inset plan maps accompanying each simulation. For Simulation 42, this reads: "Photograph Location: Viewpoint is approximately 2.0 miles from proposed transmission lines."

1605	Response to Comment
93	Viewshed analysis and map production using GIS, as demonstrated by the NPS on September 18, 2012 at Gran Quivira for visibility of transmission line structures from Gran Quivira (KOP SO31,) is an illustrative tool for visualizing the objective visibility of objects placed on the landform from a particular point. In fact, this tool was employed to produce identical analytical results that were used for preliminary review of visual impacts of the BLM-preferred alternative. However, seen/unseen maps are inherently binary, and produce results that equate visibility of small portions of the tops of structures with visibility of full structures, or visibility of backdropped structures with visibility of skylined structures. In addition, ultimate impacts to visual resources from project activities can vary based upon the subjective interpretation of the perception of a three-dimensional scene visible to a potential viewer. Two-dimensional, plan-view representations of three-dimensional visibility inherently remove the subjective nature of visual resource impacts. In addition, the objective, three-dimensional information that is graphically simplified to two dimensions in a viewshed map is also accurately portrayed in our simulations, which are produced using GIS, CAD, 3-D modeling, and image processing software. Because of this, simulating views from key observation points is a superior analytical tool for visual resource assessment because it is just as accurate, and focuses and prioritizes the attention of analysis upon subjective perception and interpretation of objective data. As such, while viewshed analysis was conducted for preliminary visual impact assessment of E84 at Simulation 47a, and all other viewing locations and KOPs, it will neither be presented as an equally valid analytical tool, side-by-side with Simulation 47a, nor with any other simulation in the FEIS, as requested. The horizontal field of view varies between simulations. The appropriate field of view for each simulation is determined so as to include identified visual sensitivities, and is roughly represented by the triangular white/purple gradient overlay emanating from the KOP in the plan maps. These inset maps are produced as reference material to orient the reader to the location and direction of the simulation. The base photographic image of each simulation is a stitched photomontage of multiple photos taken on site. Resultant imagery from photomontage stitching inevitably results in rough edges along the top and bottom as a result of minor variations in camera position by the photographer. These rough edges are cropped out for the development of presentation-quality imagery. Therefore, the vertical field of view is slightly less (~5%) less in these images than was originally captured in single photos using a 50 mm focal length. All simulation photo data was collected using a Full Field Digital Single Lens Reflex (FF DSLR) camera. Because these cameras use a full field digital sensor, they capture the full image projected by the lens, so there is no need to apply a focal length multiplier in order to determine the “true” or “digital” focal length. Therefore, focal length, as listed in the lower left of each simulation page, is both the lens focal length and the resultant “true” or “digital” focal length. Technical comments regarding Simulation 45 generally concur with the findings of the DEIS. The proposed project alternative, which includes transmission towers and conductors, is substantially less noticeable when set within an urban matrix containing numerous man-made elements, such as is found along the Santa Cruz River through urban Tucson, than one without them. Technical comments regarding Simulation 1a are generally technically accurate, and generally concur with the findings of the DEIS. However, while it is possible that visitors scanning this panoramic view would notice the transmission line and towers, it is not necessarily “easily seen” or “readily” noticeable, due to the following factors. First, the proposed project alternative (Link E80c) would be seen at a viewing distance of 6.0 miles, aka “the background.” At this distance, the scale of the objects of the proposed project alternative in relation to noticeable foreground and middleground features such as trees, landforms, signs, and pueblo mound walls, would be relatively small. In accordance with BLM VRM Manual 8410, while the objects of the proposed project alternative would be visible, they would not be viewed in detail, particularly considering the fine-scale composition of lattice towers. Second, time of day of visitation at the park should be considered when choosing an appropriate time and date for producing simulations. While it is true that objects of the proposed project alternative would be sidelit in early morning and late afternoon conditions during some spring and some summer months, and would therefore contrast more with portions that are backlit by dark vegetation, early morning hours in which the objects would be sidelit (at the summer solstice, ~4:50-8:40AM) lie outside of the hours during which the park is open (9-5, Labor Day-Memorial Day; 9-6, Memorial Day to Labor Day.) However, at the summer solstice (the date in which solar angle is furthest north,) during the times of approximately 3:20 to 6:00 PM, the solar angle would lie north of directly west (> 270°), and portions of the proposed project alternative would may be sidelit, dependent upon the direction that the viewer is facing. The season in which afternoon park visitation hours and afternoon sun angles >270° coincide is roughly mid-April to the end of August, based upon Solar Charts produced by the University of Oregon’s Solar Radiation Monitoring Laboratory Sun Path Chart Program (http://solardat.uoregon.edu/SunChartProgram.html). It should be noted that the time of day in which these conditions coincide tapers as one approaches either end of this season. A roughly approximate arithmetic calculation suggests that these conditions only occur during 3% of the opening hours of the park, over the course of the year. As such, they do not represent typical viewing conditions, and simulating these conditions over more typical conditions would produce atypical results in determining contrast rating of the proposed project alternative. Third, as mentioned, the characteristics of the backdrop significantly influence how much contrast an object has with its backdrop. In addition to color, texture, line, and form also influence contrast. In the case of Simulation 1a, most of the individually visible transmission towers display weak contrast with the backdrop due to its dark, uniform color and/or diffuse edges (gradations between dark, even juniper woodland and light, uniform savanna). In conclusion, due to the background viewing distance, expected time of day of viewing, and characteristics of the backdrop and resultant contrast, the proposed project displayed in Simulation 1a should not be characterized as “easily seen” or “readily” noticeable. Comments regarding Simulation 1b are generally technically accurate, and generally concur with the findings of the DEIS. For reasons stated in the discussion of Simulation 1a, above, the time of year and backlit condition of objects of the proposed project alternative depicted are typical, and therefore reasonable.

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93	Based on comments regarding Simulation 47a, the direction of view towards the skylined portion of the proposed project alternative (seen on the left side of the simulation,) the transmission towers would be mostly front-lit, as, by our calculation, the solar azimuth would be 108° on that date at that time of day (per Solar Charts, see above,) and the direction of view between the viewer/camera and the skylined portion of the proposed project alternative (~304°), yielding a cardinal difference of 164°. However, considering these charts, and based upon the direction of view, during roughly half of the potential visitor viewing hours over the course of the year, these towers would be front-lit, and during the other half, they would be back-lit (if one was dividing lighting conditions in a binary fashion between front-lit and back-lit). A more accurate system of describing lighting conditions includes a consideration of sidelighting, in which silhouette lines of forms are accentuated due to the contrast of front-lit planes adjacent to back-lit planes. In reality, over the course of the day, all forms are sidelit, to some degree, except for the moments when the sun is directly behind the viewer/camera, or directly in front. During the simulation process, 3-D software is employed to light structure models from the same solar azimuth and elevation, and image processing software is used to accurately depict atmospheric conditions. This process, therefore, accurately re-creates side-lit objects. Simulation 47a, as a slightly sidelit, mostly frontlit scenario, is a reasonably typical view from this key observation point. Due to the fine-scale structure of the proposed lattice structures, and the viewing distance (~2.5-3.0 miles), this simulation yielded no exceptionally bright or noticeably silhouetted forms that would result in high or moderate contrast when backdropped with the dark vegetation on the landforms behind it, though it was noted that the skylined portion introduced “moderate contrast to structure elements of form and line,” resulting in an “overall moderate-weak degree of contrast.” Often, our expectations of how a project will appear differ from their simulated and/or constructed appearance, which is the primary reason we produce simulations such as 47a. From KOP SO 31, the difference in contrast level, and resulting impact level, is very slight between E83 and E84, with the only measured differences being expected impacts from access road disturbance to vegetation and structure contrast. E83 was determined to have a moderate level of contrast in structure form, and a weak level of contrast in vegetation form, line and color, whereas E84 was determined to have a weak level of contrast in structure form, and no contrast in vegetation. In general, the contrast of the proposed structures’ forms (geometric, complex, angular, and vertical) with the form of the surrounding and backdropping landform, vegetation, and/or sky (simple, rolling, gentle, horizontal, and, at times, uniform) is more noticeable at a distance of ~2-3 miles than at a distance of ~4-5 miles. The horizontal field of view in which E83 is skylined is approximately 1/3 of that for which E84 is skylined.

					preferred alternative. Unlike the simulations and discussion for Saguaro NP, the simulations and discussion for the Gran Quivira unit indicate that there potentially would be substantial visual impacts to the Gran Quivira associated with any of the these alternatives. These subroute alternatives would entail building the lines
					In simpler and more intact landscapes (see associated NPS comments on cultural landscape and resources), the addition of the new lines will be more apparent and contrast more strongly as man-made intrusions into mostly natural-appearing landscapes. Furthermore, portions of the two subroute alternatives to the north of the Gran Quivira unit are skylined (i.e. as seen from the Gran Quivira unit, the towers and conductors would be silhouetted against a sky backdrop), which will generate relatively strong visual contrasts. The two subroute alternatives to the south of Gran Quivira would be preferable to either of the two subroute alternatives to the north of Gran Quivira from purely a "visual" impact analysis, but pose potentially significant impacts because of the cultural landscape and setting. Again, from a purely technical visual analysis standpoint, the southernmost subroute (Link 80c in Subroutes 1A and 1B1) would have the lowest impact on Gran Quivira and is the best route of the four for that reason alone..
		Chap. 3 & 4	Overall	NPS	**Visual Simulations (Technical Comments overall) Saguaro NP (East Unit)** The photomontage for Simulation 42 shows Proposed Project Alternative Centerline (Link F81a), running north to south, parallel to an existing 138 kV line, east of Houghton Rd., as it would be seen from KOP TU16 (Tanque Verde Ridge Trailhead and picnic area within Saguaro. On the day and date shown, the sun angle would be low in south-southeastern sky (solar azimuth 164°, elevation 36°). Although technically sidelit, the azimuth is such that the towers would mostly be shaded, and that is how they look in the simulations. The Park Service assumes the simulation is spatially accurate and realistic; however, the line could often appear to be brighter than shown in this simulation. For example, in the summer months the sun would rise more directly in the east rather than the southeast, and would therefore be more or less behind the viewpoint in the mornings, causing the line to be frontlit as seen from this viewpoint. It likely would contrast more with the background. In fact this would be the case in the mornings for much of the year. So, although the simulation is likely accurate, realistic, and correct for the date and time

					shown, the date and time selected for the simulation do not represent conditions that would be encountered on a daily basis for substantial parts of the year, and at those times it would probably be at least slightly more noticeable than depicted here. From this viewpoint, the transmission towers and conductors would be viewed against a visually complex backdrop that contains numerous man-made elements. In the immediate foreground, there are numerous ocotillo plants that have the same general form and line characteristics of the guyed-V towers, and there are numerous short vertical lines of saguaro cacti as well. These existing elements make the transmission line substantially less noticeable than it would be in a simpler/more pristine landscape, but as indicated above, the transmission structures would probably show stronger contrast with the background at some times. **Other Simulation Issues** The simulation presentation has the following issues, none of which are considered to be critical. The first thee are more important than the others. 1. There are no viewing distances specified for the simulations, so there is no way to know if the line, at the size depicted here, matches the way it would look if you were actually standing at the viewpoint. To get a true understanding of how big the lines would look from this viewpoint, and therefore the likely contrast, the viewing distance should be specified. 2. GPS coordinates for the KOP (camera location) should be provided so that the precise location can be determined. 3. A viewshed for the KOP (with the projects) should be provided. 4. The image appears to have been cropped vertically, and it may have been cropped horizontally; there is no way to tell. Any cropping should be identified and quantified. 5. The horizontal and vertical field of view of the image should be specified. 6. The camera and lens make and model should be included. Assuming the base photograph for the photomontage was taken with a digital camera, the sensor width should be provided. 7. Assuming the base photograph for the photomontage was taken with a digital camera, the digital focal length for the photograph should be provided. If we knew the image sensor width and the digital focal length (from items #4 and

					#6), and if it was confirmed there was no horizontal cropping of the image, we could calculate the correct viewing distance, regardless of the display size. 8. The methodology used to create the simulations should be provided, including procedures, software, etc. 9. A scale should be provided for the map accompanying the simulation (the one showing the KOP, project, photograph direction, and horizontal field of view). **4.2 Simulation 45** **Saguaro NP** The photomontage for simulation 45 shows Proposed Project Alternative Centerline (Link F510), running northwest to southeast, parallel to an existing 138 kV line, as it would be seen from KOP TU25 (West Picture Rocks Road within Saguaro NP West) on Jan. 21, at 3:47 PM MST. On the day and date shown, sun angle would be low in the southwestern sky (solar azimuth 216°, elevation 29°). The towers and conductors would be frontlit, and that is how they look in the simulations. The Park Service assumes the simulation is spatially accurate and realistic; and although the sun would not be particularly bright in the low winter sky, the towers and conductor would not appear a lot brighter than this at most times, especially if the towers were dulled/painted and the conductor was non-specular. From this viewpoint, the transmission towers and conductors would be viewed against a visually complex backdrop that contains numerous man-made elements. These existing elements make the transmission line substantially less noticeable than it would be in a simpler/more pristine landscape. **Other Simulation Issues** The issues listed under Simulation 42 apply here as well, but in addition: The AC 500 kV Tower Structure Diagram shows a guyed-V tower, implying that that is what is simulated. The simulation appears to show monopoles. One of the two (the diagram or the simulation) appears to be in error; so please check and correct, as needed. **4.3 Simulation 1a**

					Salinas Pueblo Missions NM (Gran Quivira Unit) The photomontage for Simulation 1a shows Proposed Project Alternative Centerline (Link ES0C, part of Subroute 1A – North River Crossing) running east-southeast and east across an open, natural-appearing landscape, as it would be seen from KOP SO2a (Gran Quivira Ruins) on Feb. 16, at 10:18 AM MST. The transmission line would be viewed roughly perpendicular to its On the day and date shown, sun angle would be low in south-southeastern sky (solar azimuth 137°, elevation 35°). Given the solar azimuth, from this viewpoint at the time depicted, the towers would be backlit (shaded). The Park Service assumes the simulation is spatially accurate and realistic; however, the line could sometimes to be brighter than shown in this simulation. For example, in the late spring and summer months the sun would rise and set in the northern sky, and in the early morning and late afternoon, the sun would fall directly on the towers and conductors, as seen from this viewpoint. It likely would contrast more with the background at these times, at least where there is a dark backdrop (evergreen vegetation areas). So, although the simulation is likely accurate, realistic, and correct for the date and time shown, the date and time selected for the simulation do not represent the maximum contrast conditions that would be encountered on a daily basis for substantial parts of the year, and at those times the portions with a dark backdrop would probably be slightly more noticeable than depicted here. That wouldn't necessarily be the case where there was a lighter backdrop (grassy areas). From this viewpoint, the transmission towers and conductors would be viewed against a less complex visual backdrop (relative to the Tucson area simulations described above for Saguaro NP) that is mostly natural appearing. Where the backdrop is the dark vegetation (which would not change color substantially in the course of the year), the line is difficult to see (but note that contrast could be higher at the times specified above). However, where the towers are seen against a grass backdrop, despite the 6+ mile distance to the transmission line, the short vertical lines of the towers are easily seen, and introduce an obvious man-made element into the otherwise natural-appearing landscape. It doesn't dominate the view, but it would not likely be missed by casual observers; people visiting the ruins would likely be scanning the panoramic view from this location. More informed or knowledgeable visitors would notice the lines readily.

					If the proposed line followed the route depicted, the line would be viewed entirely against a vegetative backdrop (not skylined). It is farther from the Gran Quivira unit than the other southern subroute. Because the line is south of the Gran Quivira unit it will be shaded much of the year. Based upon a purely technical visual simulation analysis, NPS believes that of the four subroute options passing near the Gran Quivira unit, this subroute option has the lowest potential visual impact on the Gran Quivira unit. (note that from a cultural resources standpoint, this subroute does not have the lowest potential visual impact) **Other Simulation Issues** The issues listed under Simulation 42 apply here as well. **4.4 Simulation 1b** **Salinas Pueblo Missions NM (Gran Quivira Unit)** The photomontage for Simulation 1b shows Proposed Project Alternative Centerline (Link E81) running east and then east-southeast across an open, natural-appearing landscape, as it would be seen from KOP SO2b (Gran Quivira Ruins) on Feb. 16, at 10:18 AM MST. The transmission line would be viewed roughly perpendicular to its length, so the line would stretch across a large portion of the view, but the distance to the line is much shorter than in the previous simulation. Similarly to the previous simulation, on the day and date shown, sun angle would be low in south-southeastern sky (solar azimuth 137°, elevation 35°). Given the solar azimuth, from this viewpoint at the time depicted, the towers would be backlit (shaded). The Park Service assumes the simulation is spatially accurate and realistic; however, the line could sometimes to be brighter than shown in this simulation, for the same reasons discussed above, and so there could be greater contrast than shown here for those portions of the line viewed against a dark vegetation backdrop. The same concerns about contrasts discussed for the previous simulation apply here also, but this line is much closer, so the towers would appear larger, and details of the lattice work would likely be apparent, which would add to the contrast. The conductors are not visible in the simulation, but they might be visible, especially if they were not non-specular conductors. The text notes the following with respect to impacts associated with the E81 link:

					"More occurrences of moderate-strong impacts are anticipated to occur along links E81 and E85 through rolling juniper-woodland savanna, because new access roads would require ground disturbance on moderate to steep terrain and the removal of dense vegetation, resulting in strong landscape contrast." If the proposed line followed the route depicted, the line would be viewed entirely against a vegetative backdrop (not skylined). Because the line is south of the Gran Quivira unit it will be shaded much of the year. But because it is much closer to the viewpoint, this route creates greater impacts to the Gran Quivira unit than the subroute using link 80c described immediately above, and is therefore less desirable. From a purely technical analysis, NPS believes that of the four subroute options passing near the Gran Quivira unit, this subroute option has the second lowest potential visual impact on the Gran Quivira unit. (again, see the note regarding potential impacts to Cultural Resources for subroute 1a) **Other Simulation Issues** The issues listed under Simulation 42 apply here. **4.5 Simulation 47a** **Salinas Pueblo Missions NM (Gran Quivira Unit)** The photomontage for Simulation 47a shows Proposed Project Alternative Centerline (Links E83, E85, and E80d) running southeast and then generally east across an open, mostly natural-appearing landscape, as it would be seen from KOP SO31 (Gran Quivira Ruins) on May 25,2011, at 10:01 AM MST. The transmission line would be viewed roughly perpendicular to its length in the eastern portion of the view, but the line turns so that in the western portion of the view the line is oblique to the line of sight, as it runs up and over the top of a ridge. The line would stretch across a large portion of the view. On the day and date shown, sun would be in the upper half of the eastern sky (solar azimuth 101°, elevation 57°). Given the solar azimuth, from this viewpoint at the time depicted, where the line runs southeast (over the ridge), the towers would be backlit (shaded), but for most of the day, they would be frontlit, and probably somewhat brighter than shown here. The Park Service believes the simulation is spatially accurate and realistic; however, the line could sometimes to be brighter than shown in this simulation, for the same reasons discussed above, and so there could be greater

					contrast than shown here for those portions of the line viewed against dark vegetation. Likely it would matter less where the line is silhouetted against the sky, because the sky is much brighter than the towers and conductors, regardless of whether they are frontlit or backlit. As far as contrast and impact, although across much of the view the line would be viewed against a vegetated backdrop that would reduce the contrast substantially, where it crosses the ridgeline, it is silhouetted against the sky (skylined) on a prominent ridge within the BLM foreground distance of 3-5 mi. Even though the skylined portion of the line does not fill much of the field of view, as the eye naturally follows the prominent ridgeline, visual attention would be drawn and held by the 13 towers breaking the ridgeline, and assuming the simulation is accurate and realistic, the conductors would be plainly visible, adding somewhat to the contrast. Potential impact is reduced somewhat because there are buildings and other man-made elements in the direct line of sight toward the towers. But a visitor to the ruins would not likely miss seeing the transmission line over the ridge, and the sight could detract from the visitor experience, and it certainly would detract noticeably from the view from the ruins. There are a few other towers breaking the horizon line in the far eastern portion of the simulation, but the visible portion of the towers is small, there are only a few towers, and they are not on a ridge, therefore they present a much smaller contrast. The text also notes the following with respect to impacts associated with the E85 link: "More occurrences of moderate-strong impacts are anticipated to occur along links E81 and E85 through rolling juniper-woodland savanna, because new access roads would require ground disturbance on moderate to steep terrain and the removal of dense vegetation, resulting in strong landscape contrast." If the proposed line followed the route depicted, a portion of the line would be skylined on a prominent ridge, at a distance that would show details of the towers and the conductors clearly. Because the line is north of the Gran Quivira unit, it would be frontlit much of the year. It is farther from the Gran Quivira unit than one of the alternatives passing south of Gran Quivira, but the skylining on the prominent ridge will make it a much stronger contrast than either of the subroute alternatives passing south of the Gran Quivira unit. This subroute alternative has relatively equal potential impacts to the other subroute

					alternative that passes north of Gran Quivira. Contrasts from this alternative subroute cover a small part of the horizontal field of view, but are more visually dense, and the ridgetop skylining will make them visually prominent. The other subroute alternative (E84) is skylined but not as prominent because it is farther away, and not on the highest part of the ridge; however, it covers a substantially wider part of the horizontal field of view. The ridgetop skylining under this subroute alternative is likely somewhat less of a contributor to overall visual contrast than the wider field of view of the line under the alternative subroute. Thus, from a purely technical analysis (Not including the cultural landscape and history of the site), this subroute option has the second highest potential visual impact on the Gran Quivira unit. **Other Simulation Issues** The issues listed under Simulation 42 apply here. **4.6 Simulation 47b** **Salinas Pueblo Missions NM (Gran Quivira Unit)** The photomontage for Simulation 47b shows Proposed Project Alternative Centerline (Links E84, E85, and E80d) running northeast and then east across an open, mostly natural-appearing landscape, as it would be seen from KOP SO31 (Gran Quivera Ruins) on May 25,2011, at 10:01 AM MST. This is BLM preferred alternative. The transmission line would be viewed roughly perpendicular to its length, but slightly more obliquely in the eastern portion of the simulated view. The line would stretch across a large portion of the view, mostly in the eastern half of the viewshed. On the day and date shown, sun would be in the upper half of the eastern sky (solar azimuth 101°, elevation 57°). Given the solar azimuth, from this viewpoint at the time depicted, where the line runs east-west, the towers would be sidelit; where it runs northeast, it would be frontlit. Where it runs east-west, the line is mostly silhouetted against the sky and the lighting angle would not affect visibility very much; it would probably look the way it does here most of the time with the same weather and visibility conditions. As far as contrast and impact, the line would be silhouetted against the sky (skylined) at distances of about 4-5 mi. Even though the skylined portion of the line does not cross the most prominent part of the most visible ridgeline, it does occupy a substantial portion of the field of view, and as the eye naturally scans the horizon, visual attention would be drawn and held by the 22 towers (approximate count) breaking the horizon.

					Assuming the simulation is accurate and realistic, the conductors would be visible, adding somewhat to the contrast. Impact is reduced slightly because there are a few buildings and other man-made elements visible in the foreground, a visitor to the ruins would clearly see the transmission line and would detract from the visitor experience, and certainly detract noticeably from the view from the ruins. The tops of two towers break the prominent ridgeline in the western portion of the simulation, but the visible portion of the towers is small, and they are in a small gap on the ridgeline, which If the proposed line followed the route depicted, a large portion of the line would be skylined, at a distance that would show some details of the towers and the conductors. Because the line is north of the Gran Quivira unit, it would be frontlit much of the year. It is farther from the Gran Quivira unit than the other alternative passing north of Gran Quivira, but the large area of skylining will make it a slightly stronger contrast than the other subroute alternative passing north of Gran Quivira, and it will present much stronger contrast than either of the subroute alternatives passing south of the Gran Quivira unit. Thus, from both a purely technical standpoint and the cultural landscape/history and setting evaluation, this BLM preferred alternative (and this subroute) has the highest potential visual impact on the Gran Quivira unit. **Other Simulation Issues** The issues listed under Simulation 42 apply here.

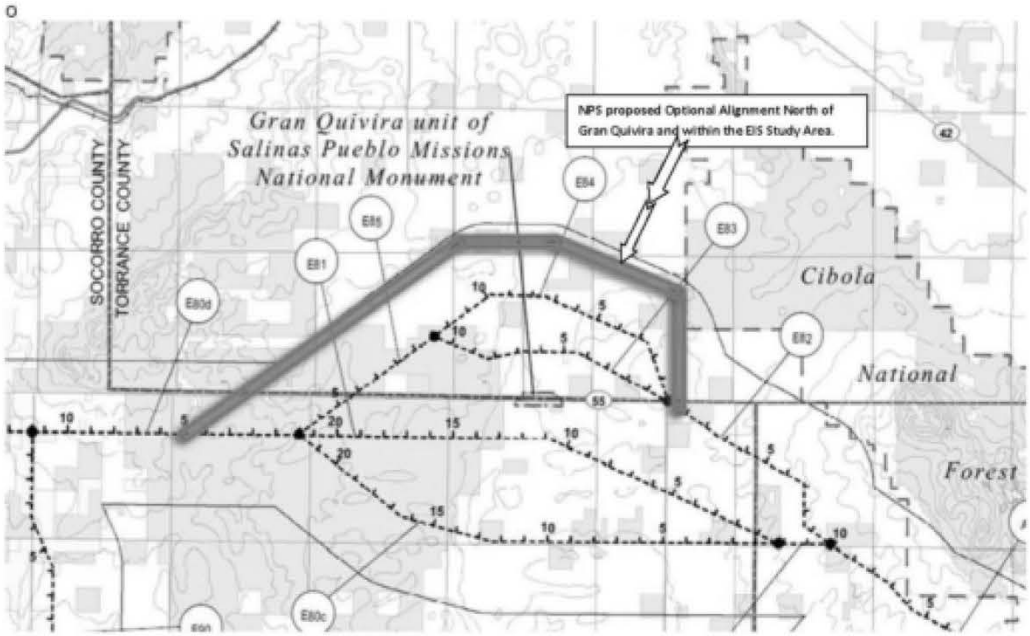

Figure 1 NPS Proposed Optional alignment for transmission line near Gran Quivira. The entire option as presented is within BLM's Study Area for the EIS.

1697

1697

From: Chad Wegley
To: BLM_NM_SunZia_Project
Cc: Doug Mason
Subject: Comments on the DEIS for the SunZia Transmission Project
Date: Tuesday, August 21, 2012 12:33:52 PM
Attachments: 120821_AM_District_comments DEIS_1.pdf

Dear Mr. Garcia,

Attached is a comment letter from San Carlos Irrigation and Drainage District regarding the subject item. Thank you for considering our input.

Regards,
Chad Wegley

Chad Wegley, P.E.
San Carlos Irrigation and Drainage District
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1697

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT

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August 21, 2012

By E-mail

Adrian Garcia
Project Manager
Bureau of Land Management
New Mexico State Office
SunZia Southwest Transmission Projec
P.O. Box 27115
Santa Fe, NM 87502-0115

Re: Comments from San Carlos Irrigation and Drainage Regarding the Draft Environmental Impact Statement (DEIS) and Resource Management Plan Amendments for the SunZia Southwest Transmission Project

Dear Mr. Garcia:

The San Carlos Irrigation and Drainage District (District) is issuing this letter to the Bureau of Land Management (BLM) to express our concerns with the proposed alignments for the SunZia Southwest Transmission Project (Project) in Pinal County, Arizona.

1 As background to place our concerns in context, this District operates and maintains a vast network of irrigation facilities that convey water from the Gila River to 50,000 acres of land from the Town of Florence to the city of Casa Grande. According to the exhibits provided in the DEIS, proposed alignments for the "tail-end" reach, from Picacho Reservoir to the Pinal Central Substation, the Project will impact this District's O&M activities along the Florence-Casa Grande Canal, Florence Canal, Casa Grande Canal, and the Florence-Casa Grande Canal Extension. These canals are owned by the U.S. Bureau of Indian Affairs and the "tail-end" corridor for the Project is already very crowded with a nearly completed 500-kV line for Salt River Project and a proposed 500-kV line for Tucson Electric Power.

In addition, pursuant to the Arizona Water Settlements Act (118 STAT. 3502 PUBLIC LAW 108–451—DEC. 10, 2004), this District is in the late stages of planning to rehabilitate portions of the San Carlos Irrigation Project within the District's service area, including the reach of the Casa Grande Canal between Picacho Reservoir and the Pinal Central Substation. A draft EIS

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Mr. Adrian Garcia
Re: Comments on the DEIS and RMP Amendments for the SunZia Project
August 21, 2012
Page 2 of 2

describing this action is in final review by the U.S. Bureau of Reclamation and its release is expected shortly.

2 The concern of this District is that there is a strong likelihood that the location of the Project will conflict with current and planned land uses within this corridor. In addition, we are concerned that there has been no consultation with this District regarding the proposed project.

3 Accordingly, this District respectfully requests that BLM and SunZia not publish any further environmental compliance documents until consultations have been conducted with this District and a preferred alignment has been collaboratively chosen that does not conflict with current and planned activities of this District and others.

Thank you for your consideration.

Sincerely yours,

Douglas D. Mason
General Manager

cc: Ed Begay, Acting Project Manager, San Carlos Irrigation Project, Bureau of Indian Affairs, Coolidge, AZ
Pam Williams, Office of the Solicitor, Department of the Interior, Washington, DC
John McLaughlin, Environmental Compliance, Bureau of Reclamation, Phoenix, AZ
Riney Salmon, Esq.

1697	Response to Comments
1	Comment noted
2	Comment noted
3	Comment noted

1774

DEPARTMENT OF THE ARMY
U.S. ARMY WHITE SANDS MISSILE RANGE
100 Headquarters Avenue
WHITE SANDS MISSILE RANGE, NEW MEXICO 88002-5000

TEDT-WS-CG 16 August 2012

MEMORANDUM FOR Mr. Adrian Garcia, Bureau of Land Management, New Mexico State Office, 301 Dinosaur Trail, Santa Fe, New Mexico 87508

SUBJECT: SunZia Southwest Transmission Project, Draft Environmental Impact Statement dated 11 May 2012

1. In accordance with the Cooperating Agency Memorandum of Understanding between the New Mexico State Office of the Bureau of Land Management and White Sands Missile Range (WSMR), I am submitting our comments to the Draft Environmental Impact Statement. We are providing our comments in two separate enclosures.

- Military Mission Impacts: The DEIS identified preferred route is unacceptable as it is located within the White Sands Missile Range (WSMR) restricted airspace (ground level to infinity), inside the WSMR extension boundary, and within two miles of the LC-94 Launch Pad. We once again recommend BLM examine alternative routes 1, 1A, and 2B identified in the OSD letter dated 11 May 2011. Each of these alternatives is acceptable. Alternative route 2B (figure 6 of enclosure 1) is closest to our mission area and explained below.
  - DEIS Preferred Route Does Not Meet Safety Requirements: The probability of impact integrated across the length of the transmission line following the DEIS preferred route between the identified marks is 1.07x10^-4 and is considered unacceptable by agreement with military ranges throughout the US. In addition to the probability of impact, the DEIS preferred route splits the LC-94 Instrument Site (Lee's Point Radar and telemetry trackers) and the launch site. The concrete pads and roads leading to this instrumentation are fixed and permanent.
  - Alternative 2B Route Does Meet Safety Requirements: The probability of impact integrated across the length of the transmission line following the alternative 2B is 7.85x 10^-9, an improvement by five orders of magnitude. Alternative 2B (as outlined in our enclosure) is considered an acceptable risk.
- Other Comments Related to the Draft Impact Statement:
  - Statement of Purpose of and Need for federal action is overly broad. As a result, the alternatives analysis does not capture all reasonable alternatives.
  - Alternatives analysis eliminates reasonable alternatives which would reduce impacts on WSMR and DOD mission, and which may have the least environmental impacts.
  - In the event that BLM selects an alternative which would require a WSMR decision (for example a right-of-way action), we would not be able to adopt the environmental impact statement unless its comments and suggestions have been satisfied.

2. My point of contact for this action is Mr. Dan Hicks, Chief of Staff, (575) 678-5398, or e-mail daniel.c.hicks.civ@mail.mil.

X John G. Ferrari

2 Encls

JOHN G. FERRARI
Brigadier General, USA
Commanding

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Updated military impact analysis of the BLM preferred route

for the SunZia Transmission Lines

Purpose: To inform interested parties of the WSMR military mission impacts caused by the BLM preferred route for the SunZia transmission lines.

Bottom line up front: In the absence of mitigation concepts, the BLM preferred route has a known significant impact to WSMR missions. This impact involves launch complex 94 and the probability of damaging national infrastructure. Adopting - as a minimum - WSMR Route 2B around the launch complex would reduce the risk to the lines by 5 orders of magnitude (from 10^{-4} to 10^{-9}). Recommend DoD again provide comments to BLM to examine the Northern alternatives (WSMR1, 1A and specifically 2B) that go around the LC94 launch complex and our other critical mission sets.

Background: As a common frame of reference, the BLM provided draft EIS maps have been used in this point paper. This point paper will focus on an updated analysis on zone 1 lines and will not address zone 2 lines. Zones 2 impacts have not significantly changed from the previous analysis which determined these routes to have a "less than significant impact" to WSMR operations (ref WSMR memo to ATEC dated 6 Dec 2010)

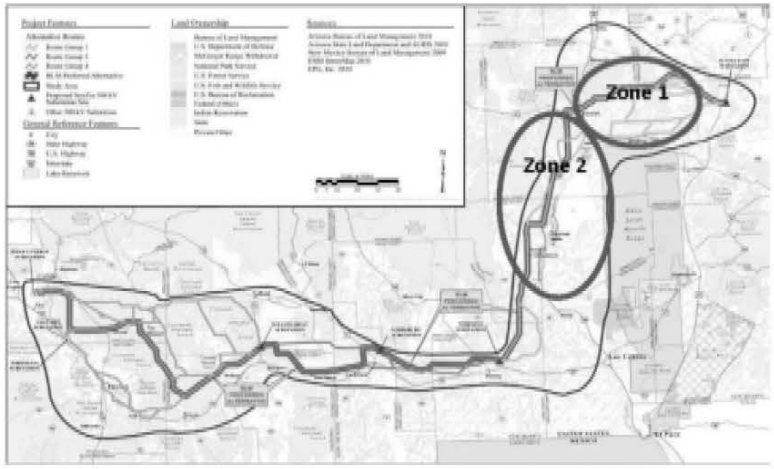

Figure 1

as of 15 Aug 2012

Analysis: The military impacts associated with the zone 1 lines can be grouped according to test/training mission profiles and elements. Overlay "boxes" are used to show which transmission line routes result in a military impact.

Background on Debris and Infrastructure Safety. The Department of Defense must consider the potential for damage to national infrastructure resultant from defense-related activities, including Test & Evaluation (T&E). A means to reduce the chance to damage infrastructure is to calculate safety fan buffer zone (see below) and keep national infrastructure outside of these zones. The standard level of acceptable risk is a probability of occurrence of less than 10^{-5}. For T&E activities, the probability is calculated by examining the test article, determining possible failure modes, and the probability of each occurrence. A Monte Carlo computer simulation is used in most cases to determine the probability contours and probability of impacting a specific area.

Safety Fan Buffer Zones. Some of the alternative BLM routes include segments which will be inside safety fan buffer zones developed for a variety of surface to air and air to ground systems (see figure 2). The BLM preferred route removes approximately 245 sq miles of usable safety fan buffer zone area which is ~4.1% of WSMR total usable safety fan area. The impact of this removed area is considered "less then significant" to WSMR operations as safety fan buffer zones typically don't not reach the top of the extension area. However, routes inside the black circle shown in figure 2 are considered to have a significant impact. Please note that as weapon ranges increase, or altitudes increase or the system possess a larger warhead, or has more aerodynamic lift, the safety fan buffer zones become larger.

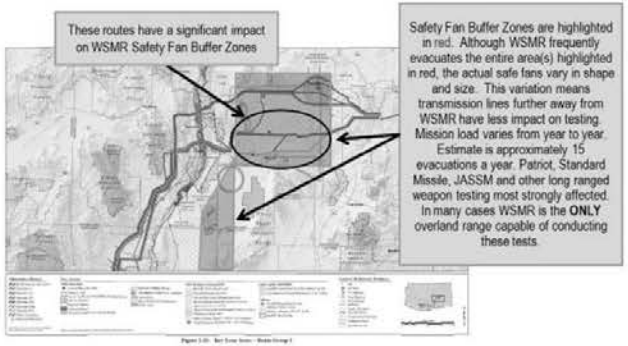

Figure 2

WSMR has recently experienced an increase in long ranged testing. Figure 3 shows the safety fan buffer zone associated with an AQM-37 mach 3 target. The safety fan runs over all proposed SunZia routes. If the integrated probability to damage the lines was above 10^{-5}, this test would not be possible or some

as of 15 Aug 2012

mitigation approach would be required. Possible mitigation strategies are: 1) de-energized the power lines during the test activity, or 2) change of DoD risk management policy regarding national infrastructure.

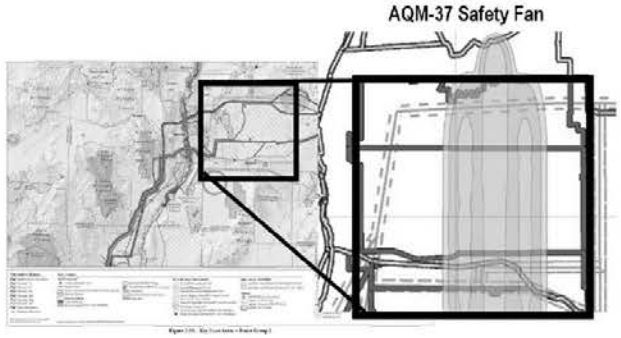

Figure 3

Debris. Target Debris from LC94 may damage SunZia infrastructure (figure 4). Programs include Patriot, THAAD, MDA, Navy ARAV targets. Mission load varies significantly from year to year. Conservative estimate is approximately 2 mission per year. Debris patterns vary based upon target. The estimated impact to WSMR operations is considered significant due to the estimated probability of damaging the SunZia transmission lines is above 10^{-5}.

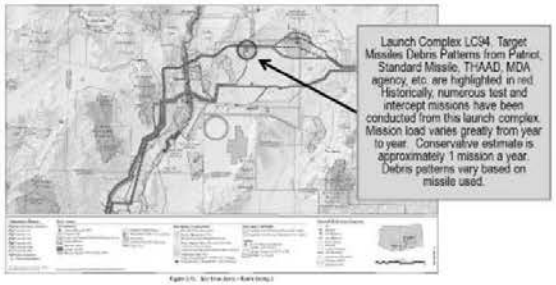

Figure 4

as of 15 Aug 2012

Figure 5 shows probability curves associated with a target launch out of LC94. The rainbow colored lines show the probability contours from a failure. The straight segment blue line on the left hand side of the figure is the BLM preferred route. Note the integrated probability of impacting the line from an "average" target launched out of LC94 is 1.07×10^{-4}. This is above the DoD standard of 10^{-5}. Also shown on the figure is a possible transmission line route around the launch complex (red and green lines) with the associated probability of impact at 7.85×10^{-9} well below the DoD standard.

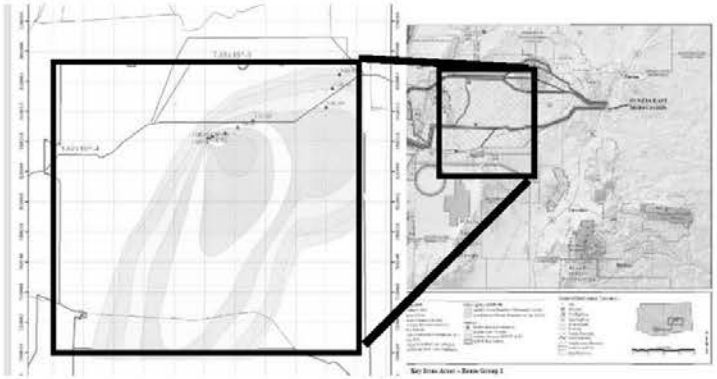

Figure 5

As suggested in figure 5, a possible mitigation for the debris impact problem is for the SunZia transmission lines to be route around the LC94 launch complex. Figure 6 shows a possible route (the green WSMR 2b route) which will reduce the probability of impact to $\sim 10^{-9}$, this is well below the DoD standard. This route is ~2 miles longer, than the preferred route.

Figure 6

Other Impacts Near LC94. WSMR has some concerns about potential EMI from the transmission lines and its affect on, target build-up, pre-mission checks, and launch. The systems of particular unease are the Flight Termination Systems, HERO issues, C-Band/TM assets, local communication (radios, etc...) and communication with range control, since it is micro-waved from Lee's Pt. The impact appears to be "less than significant", based upon the operations and distance from the lines. However, it is important to note, that EMI from transmission lines can vary greatly based upon weather factors, line configuration, etc which may increase the impact to WSMR LC94 operations. Moving LC94 is difficult based upon it's strategic geographical location (i.e. central part of the extension area). Best location remaining would be in the upper right hand corner of the extension area (near the Gran Quivira). Rough order of magnitude cost is ~12.0 M dollars (new road construction dominates costs at ~10M) for the facility.

Cruise Missiles Targets. Cruise missile targets are negatively affected by the physical presence of power lines as shown in figure 7. In some cases, cruise missiles targets are flown at altitudes equivalent to the height of the towers and connecting lines. The impact of the power lines precludes execution of these missions at WSMR. Cruise Missile targets (BQM-74s and MQM-107s) are routinely flown for Air and Missile Defense (AMD) systems such as Patriot, Standard Missile, JLENS, AIAMD, etc. For AMD radar testing, the cruise missile targets must fly at low altitude just like the threat system altitudes. The AMD radars must detect these low flying targets at extended ranges and in a clutter environment (i.e. the targets are flying at a very low level). It is critical to know the radar's performance envelope, particularly the maximum detection range of targets at low altitude in a clutter environment. If the target has to "pop up" over infrastructure – this invalidates the test, as the radar will easily detect the target.

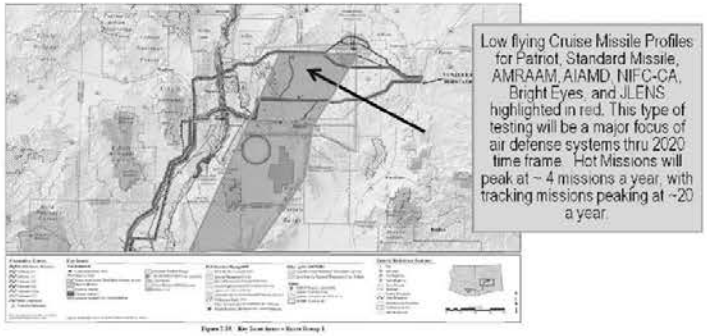

Figure 7

Flight Safety. The red areas included numerous flight routes for manned fixed and rotary winged aircraft as well as UAS (figure 8). Low-flying manned aircraft such as the German Tornado typically operate at altitudes around the height of the towers and connecting lines; especially near the Red Rio bombing range, which is near the northern boundary of WSMR. The presence of these lines represent a significant increase in safety hazard to pilots conducting both testing and training missions. The physical presence of elevated power lines presents an increased hazard to low-flying manned aircraft and Unmanned Aerial Systems (UAS). Holloman Air Force Base (HAFB) flies numerous test and training missions throughout the WSMR airspace. Both HAFB and WSMR fly UAS at all altitudes, with lower altitudes being of greatest concern for this assessment. Mitigation efforts can reduce some of the impact, but in general, the closer the power lines are to WSMR, the greater the hazard. It is important to point out that all of the proposed SunZia corridors are within military restricted airspace. The impact to WSMR operations is considered significant for these transmission lines located in the red areas. Impact is "less than significant" outside the red areas.

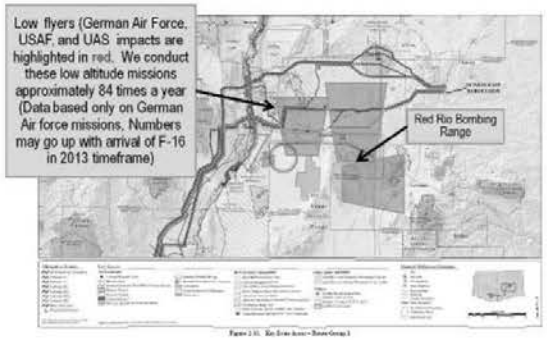

Figure 8

Emerging technology: Finally one of the most compelling arguments is the impact the transmission lines will have on emerging technology testing. Continuing development of weapon and sensor systems to defeat the evolving threats makes it very difficult to predict how much land and airspace is required for future testing. Three years ago, no one would have thought the country needed a large aero-acoustic range with very low background noise (acoustic noise). The **only** place in the country that could host the facility was WSMR because of the low amount of encroachment. This facility now helps operational UAS fly closer to insurgents in theater before dropping ordnance. Five years ago, no one would have thought the country needed a large low encroachment C-IED facility for testing HPM technologies to defeat IEDs. The **only** place found in the country for this facility was WSMR. This facility has fielded numerous C-IED systems to protect US troops from the most significant threat they faced in Iraq and Afghanistan. 6-8 months ago, no one would have thought WSMR needed to launch AQM-37

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targets in the public airspace. Since the first SunZia military impact paper was written 3 years ago, two new test customers (JLENS, Navy AQM-37) have arrived at WSMR that could/would have been impacted by the SunZia transmission lines. Based upon these events nibbling into WSMR testing areas represent a long term issue for DoD. The historical trends strongly point to the need for more land and airspace that can be isolated from the encroachment of infrastructure like the SunZia transmission lines.

Recommendation: In the absence of mitigation concepts, the BLM preferred route has a known significant impact to WSMR missions. This impact involves launch complex 94 and the probability of damaging national infrastructure. Adopting - as a minimum - WSMR Route 2B around the launch complex would reduce the risk to the lines by 5 orders of magnitude (from 10^{-5} to 10^{-9}). Recommend DoD again provide comments to BLM to examine the Northern alternatives (WSMR1, 1A and specifically 2B) that goes around the LC94 launch complex and our other critical mission sets.

as of 15 Aug 2012

Acronyms

BLM	Bureau of Land Management
SDB	Small Diameter Bomb
JASSM	Joint Air-to-Surface Standoff Missile
LC94	Launch Complex 94
THAAD	Theater High Altitude Area Defense
MDA	Missile Defense Agency
UAS	Unmanned Aircraft Systems
JLENS	Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System
AIAMD	Army Integrated Air and Missile Defense
AMRAAM	Advanced Medium-Range Air-to-Air Missile
NIFC-CA	Naval Integrated Fire Control - Counter Air
CONUS	Continental United States
RCS	Radar Cross Section
USAF	Untied States Air Force
DoD	Department of Defense

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Definition of "significant" for this paper (based upon 40 CFR §1508.27 (NEPA)):

a. **Context** means that the significance of an action must be analyzed in several contexts such as society as a whole (only DoD range with a capability), the affected region, the affected interests, and the locality. Both short- and long-term effects are relevant (i.e. long term loss of a capability for the foreseeable future).

b. **Intensity** refers to the severity of impact. The following was considered in evaluating intensity: Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.

1. The degree to which the proposed action affects public health or safety.
2. Unique characteristics of the geographic area
3. The degree to which the effects on the quality of the human environment are likely to be highly controversial.
4. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
5. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
6. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
7. The degree to which the action may adversely affect or may cause loss or destruction of significant military or scientific resources.
8. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
9. Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

as of 15 Aug 2012

From: Devogel, Gregory F CIV (US)
To: BLM_NM_SunZia_Project; Garcia, Adrian A; Mickey Siegel; Merhege, William W
Subject: FW: Final CG Signed Version of the SunZia Memo (UNCLASSIFIED)
Date: Friday, August 17, 2012 11:04:53 AM
Attachments: White Sands Response to DEIS for BLM -- 16 August 2012.pdf
Mil impacts encl 1.pdf
Gen comments encl 2.pdf

Classification: UNCLASSIFIED
Caveats: NONE

All,
WSMR's comments on the SunZia draft EIS.
Thanks,
Greg

Greg DeVogel
WSMR Chief of Plans and Operations
Office 575-678-3163
Cell 575-993-6214

-----Original Message-----
From: Callahan, Mary S CIV USARMY ATEC (US)
Sent: Thursday, August 16, 2012 4:07 PM
To: Hicks, Daniel C CIV (US); Devogel, Gregory F CIV (US); Medeiros, Carol J CIV USARMY ATEC (US)
Cc: Hallczuk, Helene G CIV (US); Callahan, Mary S CIV USARMY ATEC (US); Ferrari, John G BG USARMY ATEC (US)
Subject: Final CG Signed Version of the SunZia Memo (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Ladies/Gents -- final version of memo with enclosures. Thanks, Mary

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

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TAB B

1774

SunZia Southwest Transmission Project Administrative Draft EIS – January 28, 2012

Cooperating Agency Comment Record Form (FOUO)

Date: 22 FEB 2012 **Agency:** White Sands Missile Range

Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
1.					**Chapter 1**		
2.				WSMR	Add references to the following WSMR NEPA documents: 1. Final Environmental Impact Statement for Development and Implementation of Range-Wide Mission and Major Capabilities at White Sands Missile Range, New Mexico, March 2010. 2. Environmental Assessment for The Aeroacoustic Research Complex (ARC), White Sands Missile Range, New Mexico, December 2007. 3. Programmatic Environmental Assessment for Directed Energy Test Sites and Operations on White Sands Missile Range, New Mexico. December 2007. 4. Supplemental Environmental Assessment for Joint Directed Energy Test Site (JDETS) on White Sands Missile Range, New Mexico. July 2008.		
3.	1.9	1-13	4-5	WSMR	"Alternative routes have been considered that would include 4 small portions of right-of-way across DOD lands." SunZia has not applied for the use of Army lands. As discussed above, BLM has no authority to grant ROWs on WSMR Army lands. Repeat Comment		
4.	1.9	1-13	6-7	WSMR	"...the BLM manages public land.....future needs are considered..." DoD future mission and operational needs should be considered as well. Repeat Comment		
5.	1.1	1-1	7-8	WSMR	"...right-of-way to construct, operate and maintain the Project on public land administered by the BLM." This Project will be on lands other than just BLM administered land. This statement needs to be clarified. Repeat Comment		

1

As of 15 Aug 2012

1774	Response to Comment
1	The BLM has reviewed comments submitted by WSMR. The purpose and need for the Federal action and the range of alternatives have been clearly defined in chapters 1 and 2 of the EIS. In response to the recommendations made by WSMR and the Department of Defense, modifications to the BLM Preferred Alternative alignment described in the DEIS (Subroute 1A1), have been developed to mitigate potential impacts to the military testing missions and operations in the area near the northern boundary of the R5107C/H airspace. The BLM Preferred Alternative (Subroute 1A2) is described in the Final EIS.
2	The FEIS was added to references. Other documents not cited in ADEIS.
3	Added language in Section 1.10.3 regarding use of real property under the jurisdiction or control of the Department of the Army.
4	Added statement in Section 1.9 regarding DoD future mission and operational needs. Planning documents pertaining to military installations were reviewed in consideration of the DOD's future mission and operational needs, see sections 3.10.3.6 and 3.10.5.6.
5	*Paragraph states the project will be located on federal, state and private lands. Sentence in question is referring to an application for right-of-way on BLM administered lands.

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SunZia Southwest Transmission Project Administrative Draft EIS – January 28, 2012

Cooperating Agency Comment Record Form (FOUO)

Date: 22 FEB 2012 **Agency:** White Sands Missile Range

Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
6.	1.2	1-1	28	WSMR	What about Valencia county? Repeat Comment		
7.	Table 1-2	1-8		WSMR	The numbers included in this table appear incorrect. Verify numbers. Repeat Comment		
8.	1.6	1-11	1-3	WSMR	Statement should include all land administers (state, private, DoD, USFS, etc.) Repeat Comment		
9.	1.6	1-11	5-8	WSMR	DoA reserves the right to conduct separate EIS, if necessary. Repeat Comment		
10.	1.9	1-13		WSMR	Add the WSMR air space documents for the use of restricted airspace for the extension area. The documents are: Joint Use Letter of Procedure for Restricted Areas 5111A, 5111B, 5111C, 5111D. WSMR Commanding General is the Using Agency with authority and control over the airspace within all of these Restricted Airspace Areas. The other document is FAA Order 7400.8T, Special Use Airspace dated February 7, 2011. Repeat Comment		
11.	Table 2-1	11	?	WSMR	Land Use, why is DOD not an Exclusion? The call up area is part of the exclusion, but the transmission line goes through this area (LC-94) Use the same criteria that you used for AZ in NM.		
12.	1.10.3		16	WSMR	This is not a correct statement to represent the Dept of Army represented in this EIS. Fort Bliss, FT Huachuca, WSMR and WSMR Call up area and WSMR Mendiburu are ALL different land situations. This paragraph does not reflect that.		
13.					**Chapter 2**		
14.	2.2.1	2-3	30-37	WSMR	I have reviewed the route of the BLM Preferred Alternative and several others in or near the WSMR Northern Call Up Area. Detailed oblique photos (Pictometry 2009) which are not available outside WSMR and associated maps aided my review. No significant environmental issues and concerns were identified. However, CEQ and DOI guidelines on use of plain language and		

2

As of 15 Aug 2012

1774	Response to Comment
6	*Although portions of Valencia County are within the study area, no Project alternative is located in Valencia County.
7	* Revised in 2011. Note source WestConnect Sept. 2011.
8	* Paragraph is indicating what field offices of the lead agency are affected. Cooperating agencies, which include agencies that have jurisdiction by law are included in the same section next paragraph. Statement is referring to the lead agency. Federal, state and local agencies that have jurisdiction by law are indicated also in Section 1.6.
9	*Changed "will" to "can" in the following sentence "Those with jurisdiction by law can make a decision to approve or deny all or part of the Project based on the analysis in this EIS, while those with special expertise or information will assist in development of the analysis."
10	*This section refers to land use plans. Restricted air space is described in Section 3.10.3.6 Military Installations and Airspace.
11	* Exclusion is defined as: "Areas where legal status (i.e., wilderness areas or jurisdictional policy [e.g., active airports]) would prohibit, or most likely prohibit, the location of transmission or substation facilities." In general, military lands are not considered legal exclusion areas (e.g., Wilderness areas preclude legal rights-of-way).
12	* Paragraph modified to include WSMR and Fort Bliss Lands. However this paragraph refers to potential right-of-way decisions and no right-of-way would be requested on Fort Huachuca.
13	----
14	*It is acknowledged that the document is long and complex. However, the need to address a large number of issues, alternatives, and varied environments within a very large study area requires comprehensive documentation. Although as noted there may be no significant environmental issues associated with the Project, it is necessary to document impacts and mitigation for all alternatives.

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SunZia Southwest Transmission Project Administrative Draft EIS – January 23, 2012

Cooperating Agency Comment Record Form (FOUO)

Date: 22 FEB 2012 **Agency:** White Sands Missile Range

Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
					readability are clear and the entire document is incredibly wordy, hard to follow and too long by half. An EIS is not a technical planning document but instead should follow the planning process, however technical the process itself may be. Example: Delete: Using terrain data and maps showing locations off existing linear facilities, a general study area boundary and potential alternative route within the study were identified. Major physiographic features, jurisdictional boundaries, specially designated areas, and existing utility corridors were then used to define the study area boundary. Generalized corridors within the sturdy area were identified using similar rationale. Insert: Major features, jurisdictional boundaries, utilities and many other factors helped planners progressively define the study area boundary, identify generalized corridors and develop alternative routes. ---- Again following CEQ guidelines, the BLM may want to identify or at least briefly discuss attempts to identify the Environmentally Preferred Alternative. My brief investigations have not been confirmed by field visits, but nevertheless few observations I was able to make leads me to suspect that there may little to choose from in that regard. Considering the length of each of the alternative corridors studied, whatever environmental impacts are created over one route may average out when compared to other alternatives. This premise needs to be confirmed by way of an on-the-ground review by environmental staff. Observant people with broad environmental and most particularly a with good CR knowledge of the area need to walk the entire length of the eventual Preferred Alternative. Potential environmental issues and concerns that they would be looking for may include high erosion hazard, sensitive soils, hazardous wastes, wildlife, migratory birds nests, T&E species observed along the route,		

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As of 15 Aug 2012

1774	Response to Comment
	See following page(s)

1774

SunZia Southwest Transmission Project Administrative Draft EIS – January 28, 2012

Cooperating Agency Comment Record Form (FOUO)

Date: 22 FEB 2012 **Agency:** White Sands Missile Range

Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
					vegetation etc.. ---- The Proponent may also wish to address DoD flight safety issues, risk to transmission line infrastructure, and military property encumbrance issues addressed through preparation of other alternatives. In addition to what has already been proposed, it may be possible to identify "low lying" corridors. I identified several example locations proximate to the BLM preferred alternative, but instead following a more indirect route, one that follows drainages. Perhaps 20-25 miles in the 40 mile-wide WSMR northern call up area may thus be made "invisible" or nearly so when viewed from the perspective of a pilot's horizon flying aircraft flying at extremely low altitudes.		
15.	2.3.3.1	2-27 to 2-32	All	WSMR	BLM eliminated most of the alternative routes north of WSMR, including the alternatives identified as WSMR Routes 1, 1A, and 2 and the route north of Sevilleta NWR. **Route North of Sevilleta NWR** BLM eliminated the route north of Sevilleta NWR because BLM considered it to be inconsistent with the Cibola NF LRMP and because the route would cross a BLM ROW exclusion area. However, BLM failed to take into account that very minor adjustments to the route could entirely avoid the Cibola NF (or use existing ROW corridors through the Cibola NF) and ROW exclusion areas. The Cibola NF LRMP expressly addresses the need for expanded transmission facilities, stating: An attempt has been made to establish corridors or windows for major utility facilities such as natural gas pipelines, electric transmission lines, or major transportation routes. The corridors or windows have been established as a means of providing routes through the Forest in order to minimize development impacts on the surface resources. Corridors are shown on the Transportation and Utility Corridors map enclosed with		

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As of 15 Aug 2012

1774	Response to Comment
15	*Although the LRMP does provide for expansion of utilities, the utility corridors specified in the LRMP do not include a corridor that would be feasible for location of a new transmission line in the direction between the area north of the Sevilleta NWR and the areas to the south. As stated the FS handbook requires that new facilities be restricted to existing rights-of-way. It is not possible that "very minor adjustments to the route could entirely avoid the Cibola NF (or use existing ROW corridors through the Cibola NF) and ROW exclusion areas." The exclusion area shown on Map 2-4 from Socorro RMP EIS was amended to indicate that a one-mile-wide corridor along Hwy 380 would be removed from the exclusion area to accommodate future utilities. The text in Section 4.10.6.4 was revised accordingly. BLM acknowledges that a land use plan amendment would be needed for new utilities to be located through right-of-way avoidance areas as stated in Section 2.6. Revised text from DOD to Department of the Army.

SunZia Southwest Transmission Project Administrative Draft EIS – January 28, 2012

Cooperating Agency Comment Record Form (FOUO)

Date: 22 FEB 2012 **Agency:** White Sands Missile Range

Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
					the Plan. The demand for electronic sites has increased dramatically in recent years. The Plan will meet this demand by retaining the current eleven electronic sites and expanding four by 79 acres. Four new sites will be added providing an additional 195 acres for this use. The LRMP expressly contemplates the use of long-term permits for transmission facilities: "Term permits are used to cover uses of a longer time period (up to 30 years) and having a large economic investment. Examples of when this permit would be used are large electronic transmission lines and large recreation resorts and ski areas." Accordingly, the north of Sevilleta NWR route is not inconsistent with the Cibola NF LRMP. Consulting with the United States Forest Service as a cooperating agency, as the cooperating agencies requested, could have prevented the inclusion in the ADEIS this erroneous statement regarding the LRMP. BLM further concluded that Alternative Route 1A would "fulfill a substantially similar function and purpose" as the route north of Sevilleta NWR. BLM bases this conclusion on the applicant's objectives ("providing a transmission line right-of-way between the proposed SunZia East Substation and the Midpoint Substation"), rather than BLM's stated purpose and need for the federal action. BLM's conclusion does not take into account the likelihood that the eliminated route and river crossing north of Sevilleta NWR may have the least environmental impacts (particularly with respect to wildlife and cultural resource impacts) of all of the route segments between SunZia East Substation and the routes east of the Rio Grande and south of Socorro. Moreover, BLM's conclusion does not take into account the DA and USAF input that the route north of Sevilleta NWR would have the least significant impact on military missions.		

SunZia Southwest Transmission Project Administrative Draft EIS – January 28, 2012

Cooperating Agency Comment Record Form (FOUO)

Date: 22 FEB 2012 **Agency:** White Sands Missile Range

Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
					WSMR Routes 1, 1A and 2 BLM eliminated WSMR Routes 1 and 1A because BLM considered the routes to be in conflict with Sevilleta NWR management policy and deed restrictions. However, the portions of the routes which BLM concludes present a conflict follow the utility corridor designated in BLM's Socorro Field Office RMP, which was finalized in August 2010, during the preparation of the SunZia ADEIS. BLM eliminated WSMR Route 2 because it could "potentially result in greater cultural resource impacts along portions of the Camino Real historic trail." However, BLM apparently does not contend that the potential cultural impacts from this trail segment could not be mitigated or that the impacts would be significantly greater than other trail segments which cross the Camino Real (such as Subroute 1B, which crosses the Camino Real north of San Antonio). BLM further concluded that Alternative Routes 1A and 1B would "fulfill a substantially similar function and purpose" as WSMR Routes 1 and 2. Again, BLM bases this conclusion on the applicant's objectives ("providing a transmission line right-of-way between the proposed SunZia East Substation and the Midpoint Substation"), rather than BLM's stated purpose and need for the federal action. **Subroutes in the WSMR Safety Evacuation Area (1A, 1B1, 1B2, and 1B3)** BLM carries forward for further consideration and analysis in the ADEIS the subroutes in the WSMR Safety Evacuation Area (Northern Call-Up Area). BLM states that it "is the relevant decision-maker to determine whether to issue any rights-of-way traversing the Northern Call-Up Area." BLM states that it "will consider the DOD's comments and concerns and is responsible to determine the appropriate mitigation." However, BLM does not take into consideration WSMR's (and USAF's) previous comments detailing the significant adverse impacts, conflicts with use, and inconsistency		

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					with the DA and USAF basic policy objectives for the management of the area. WSMR requested that BLM define the WSMR Safety Evacuation Area as an "Exclusionary/Maximum Constraint Area" unsuitable for location of transmission lines because of the unique and extremely valuable Restricted Airspace resource, and the significant and long-term DA investment in real property interests (evacuation agreements, leaseholds, and fee-owned property) in the Northern Call-Up Area. In conjunction with that request, WSMR suggested the following language be added to the description of exclusion areas: The location of project facilities would be considered an inconsistent use where the facilities would impair, prevent, preclude, or interfere with the intended purpose and use of federal lands, property rights, or special use airspace. Because of the significant conflicts with and impacts on test and training missions, the Northern Call-Up Area should, at minimum, be defined as a "High Sensitivity/Constraint Area" less suitable for location of transmission lines. Additionally, it appears that Route Segment 1B3 (Link A80) crosses a BLM Right-of-Way Exclusion Area. ADEIS Figure 2-36 indicates that this is a ROW Avoidance Area; however, on Map 2-4 from the Socorro RMPEIS, the area is shown as a ROW Exclusion Area. (This ROW exclusion area conflict is confirmed by section 4.10.6.4, pg 4-166, lins 22-23) BLM cites crossing a ROW Exclusion Area as the basis for eliminating the route north of Sevilleta NWR. Consistent application of this screening criterion requires elimination of Route Segment 1B3, as well. Finally, BLM does not address the utility corridor established by the Socorro RMP or explain why the reasoning which led to the decision		

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					to establish the utility corridor is no longer valid less than 18 months after the decision was made. The following excerpt is from Socorro RMP EIS, Section 4.4.14 (p. 4-52): Federal agencies manage the majority of surface estate east of I-25 (refer to Map 1-1). BLM-managed surface land would provide the most suitable opportunities for locating utilities and/or infrastructure east of I-25, since such utilities are largely incompatible with the missions and mandates associated with other Federal land in that area (such as the national wildlife refuges and the White Sands Missile Range). Because of the right-of-way exclusion and avoidance areas on BLM-managed surface land located to the east of I-25, the placement of east-west utilities on public land could be hindered in this area under this alternative. Limited opportunities would exist to cross BLM surface-managed land east of I-25 in Socorro County, if such an alignment were necessary. The establishment of a utility corridor under Alternative B would promote the consolidation of locations for new linear facilities along I-25. It is expected that the land available within the utility corridor would be adequate to accommodate the anticipated volume of right-of-way applications. Because the corridor is adjacent to a major roadway, locating rights-of-way in this corridor would reduce additional impacts if previously disturbed areas are used. However, the location of the corridor may be incompatible with adjacent right-of-way exclusion and avoidance areas (see sections 4.4.11 and 4.4.13). (Note: this excerpt is from the discussion of Alternative B, which was the alternative selected by BLM in August 2010).		

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					Alternatives East, South and West of WSMR BLM eliminates these route segment groups because "[a]ccording to the DOD, any rights-of-way crossing DOD land segments could not be granted without significant and economically infeasible mitigation measures." BLM provides no economic analysis as the basis for this conclusion regarding economic infeasibility of the mitigation measures. Accordingly, it unknown what the threshold of economic infeasibility is for mitigation measures, and whether that determination is made by BLM or the applicant. These route segments all necessitated crossing WSMR or Fort Bliss, and BLM concluded that "the DOD is the relevant decision-maker to determine whether to issue a right-of-way on DOD lands." Because these lands are withdrawn for use by the Department of the Army, it would be more accurate to state that DA is the decision-maker to determine whether to issue rights-of-way on DA lands.		
16.	2.5.1	2-100		WSMR	BLM's socioeconomic impact analysis of the routes affecting the WSMR Safety Evacuation Areas does not take into account impacts on eco-tourism or on traditional and culturally distinctive ranching activities and ways of life. The economic impacts from curtailed mission activities (e.g., reduced evacuation payments to ranchers and business owners in the WSMR Safety Evacuation Areas) could result in significant impacts on the economic, social, and cultural values of the ranching communities in the Safety Evacuation Areas, and should be included as part of the analysis.		
17.	2.5.1	2-101	6-12	WSMR	This paragraph presents incorrect and incomplete information regarding DOD, DA, and USAF input regarding mission impacts. The mission impact information provided by WSMR, USAF, and DOD should be included as an Appendix to the ADEIS.		
18.	2.3.2	2-13		WSMR	Figure 2-3. Alternative Routes indicates the BLM preferred route. The shapefile for the preferred route was added to a map (attachment 2) generated by WSMR to include the restricted airspace, one of the WSMR Launch Complexes (LC) and the boundary		

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16	* Economic impacts from changes to ecotourism, ranching activities, or mission activities, have not been identified because it cannot be determined whether these activities would be altered with approval of the proposed Project.
17	*Information regarding mission impacts is included in section 4.10.7 Impacts to Military Operations.
18	*Comment noted.

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					of the WSMR extension area to help explain an issue with the preferred route. As can be seen on Attachment 2 (WSMR Sun Zia routes/BLM Preferred Alt February 2012), the preferred route is located within the WSMR restricted airspace (ground level to infinity), inside the WSMR extension boundary and within 2 miles of LC-94 Launch Pad. A section of a route was added to this map and identified as 2B (in purple). This section corresponds to a route identified in ÖSD letter and map sent on 11 May 2011 but includes the new deviation around Gran Quivira. The probability of impact integrated across the length of the transmission line following the preferred route between the identified marks is 1.07x10^-4 and is considered unacceptable by agreement with military ranges throughout the U.S. The probability of impact integrated across the length of the transmission line following 2B is 7.85x10^-9, an improvement by 5 orders of magnitude. This is a substantial improvement and a risk factor of 10^-9 is considered an acceptable risk. In addition to the probability of impact, the currently proposed Preferred Route splits the LC-94 instrument site (Lee's Point Radar and telemetry trackers) and the launch site. Flights from this launch site average 1-2 times per year.		
19.	2.3.3.1	2-28	15-16	WSMR	States "The resulting set of alternatives would have a substantially similar function and purpose as the WSMR routes,…" That would be a true statement if the only function is to get from point A to point B and if that is the case, it can be said of each route identified in this EIS. Impacts of each route must be considered.		
20.	2.3.3.1	2-28	18	WSMR	States "…would avoid potential conflicts with military activities conducted in the area north of WSMR." This is **NOT** a true statement. On several occasions WSMR provided BLM with the impacts to the military mission of routes in the call-up area. See attached documents: Attachment 3, 25 Nov 2009, SunZia Southwest Transmission Project with enclosure Impact of SunZia Power lines on WSMR, from BG Regan to Adrian Garcia; Attachment 4, Proposed SUNZIA AOUTHWEST TRANSMISSION PROJECT BLM Cooperating		

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19	* In cases where two alternatives have substantially similar function and purpose, the route with greater level of adverse environmental effects would be eliminated. The effects related to WSMR routes 2a and 2b were evaluated and additional discussion provided in Section 2.3.3.1.
20	*BLM acknowledges descriptions of conflicts with military activities as noted in Section 2.3.3.1 regarding the May 11, 2011 letter from DOD, which concurred that Subroute 1A1 was considered to avoid adverse effects to critical test profiles. As discussed, alternatives located north of the LC 94 were evaluated in response to military's request; the alternative alignment that was most responsive and would avoid conflicts with surrounding land uses, including the LC 94 (2 miles south), was identified as Subroute 1A1.

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					Agency Meeting Minutes, 12-2-10 Draft (WSMR Rev); Attachment 5 & 6, OSD SunZia Letter dated 11 May 2011, to Bob Abbey from Ms. Robyn, Mr. Kleinman, and Mr. Duma, and SunZia Northern Routes – Ops Impacts (referred to in 11 May letter). Attachment 3 states "  Attachment 4 states "Dan Hicks stated that the airspace, from ground level to "infinity", over most of that area is owned by the Department of Defense (DOD). He stated that the transmission line structures would compromise the mission of both Holloman AFB, and Kirtland AFB by creating obstacles for low flying aircraft that operate in that area. Another issue with these routes is their proximity to the missile launch site, LC-94, and the potential danger to damage the transmission lines within a "safety zone" surrounding the launch site should a missile launched from LC-94 malfunction and need to be remotely destroyed. .... There was considerable discussion regarding Route 2a. The cooperating agencies pointed out that BLM/EPG had made changes to the route as originally proposed. BLM indicated that the route had been moved farther south to avoid residential areas and cultural resources impacts. Cooperating agencies noted that the relocation of the route resulted in increased military mission impacts. The cooperating agencies suggested analysis of a hybrid route, using portions of Routes 2a and 1a to avoid the identified environmental and mission impacts. " Attachment 5 from Office of the Secretary of Defense states "		

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21.	2.3.3.1	2-28	34	WSMR	States "(unnamed) route would cross a BLM right-of-way exclusion area..." Routes suggested by WSMR were approximate. If a route crossed an exclusion area and could be moved a reasonable distance to bypass the exclusion area, this was acceptable.		
22.	2.3.3.1	2-31	1-4	WSMR	"(where) no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way (1985). This routed was eliminated because it would not be compatible with Cibola National Forest land management policies...." In several places throughout this document it states, Resource Management Plans will be updated to correspond to the chosen route. If some Resource Management Plans can be modified, why can't others, especially ones dated (1985)?		
23.	2.3.3.1	2-31	4-5	WSMR	States "Alternative 1A would fulfill a substantially similar function and purpose (as the unnamed route)...." That would be a true statement if the only function is to get from point A to point B and if that is the case, it can be said of each route identified in this EIS. Impacts of each routes must be considered.		
24.	2.3.3.1	2-31	6-7	WSMR	States "WSMR Route 2 would follow the alternative Subroute 1A from SunZia East Substation to the west..." This is **NOT** true. As can be seen on the map that came with the OSD letter dated 11 May 2011 (attachment 5 & 6), WSMR route 2 was not a straight east/west route. It slowly heads north as it traverses west with a definite jog around the LC-94 complex.		
25.	2.3.3.1	2-31	11	WSMR	States "the function and purpose of subroutes 1B and 1A would be substantially similar, the alternative was eliminated." As stated before, this is only true if the only consideration is getting from point A to point B. Impacts must be considered also.		
26.	2.3.3.1	2-27-31		WSMR	Analyze WSMR route 2B.		
27.	2.3.3.2	2-38	18	WSMR	States "...to produce 500 miles of 500 kV underground cable...." Why are they addressing 500 miles of cable? They should be addressing		

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21	* The "unnamed route" could not be moved a reasonable distance to bypass the abutting wilderness study areas, Sevilleta NWR, and BLM right-of-way exclusion area.
22	*Document refers to BLM resource management plans and not Forest Service land and resource management plans. The BLM does not have authority to amend Forest Service plans. The BLM determined that a route circumventing exclusion areas and crossing through forest service lands could be considered, but it would not be reasonable because of the additional environmental effects, significantly higher construction costs, and conflicts with existing land uses and the Cibola National Forest policies.
23	See comment 20.
24	*Description of route revised.
25	*Text clarified to address the impacts of these alternatives.
26	* Potential effects of WSMR Route 2b have been added to the description in Section 2.3.3.2.
27	*This statement refers to a potential alternative that would require underground construction for the entire proposed Project. The analysis of the 3-mile underground alternative was provided in section 4.16. Revised text to "An alternative to construct and operate the entire length of the proposed 500 kV transmission lines underground was considered in response to scoping comments but eliminated from further consideration, because of the high cost, potential reliability concerns, operational risks, and environmental impacts."

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					the 3 miles of cable to go under the Rio Grande. If they want to address all 500 miles of underground, okay, but this section should address the 3 miles that was the biggest concern.		
28.	2.5.1	2-101	11-12	WSMR	States "...either 1A or 1A1 would avoid bisecting the military airspace and Northern Call-Up area." This is NOT true. 1A and 1A1 (preferred route) cross both the military airspace and the Northern Call-Up area. (See attachment 2)		
29.	2.4.11.1	2-84	19-22	WSMR	What Bird Management and Avian Protection Plans are being referred to here? Will there be one plan for the entire transmission line?		
30.	Table 2-10	2-91	#25	WSMR	Preconstruction surveys for T&E species should be coordinated with each land management agency, and for ESA listed species should be coordinated with USFWS via Section 7 Consultation. Impacts to Todsen's pennyroyal, northern aplomado falcon, or southwestern willow flycatcher are a concern to WSMR and because their decline could affect the WSMR mission. Other species of concern to WSMR: golden eagle, gray vireo, pinyon jay, desert bighorn sheep, Oscura Mountain chipmunk.		
31.	Table 2-10	2-91		WSMR	Add a separate section for migratory birds, especially regarding impacts to nests. Take of nests, eggs, nestlings, and birds is a violation of the MBTA. Construction should occur outside of nesting season and/or other mitigations should occur to avoid take.		
32.	Table 2-10	2-91		WSMR	Add a separate section for bald and golden eagles protected by the BGEPA. The project needs to ensure eagles and/or nests are not disturbed or harmed by construction or maintenance of the line.		
33.	Table 2-10	2-91	#27	WSMR	Surveys for bat roosts is not a mitigation in itself. Bat roosts discovered should not be disturbed.		
34.	Table 2-11	2-94	#7	WSMR	Use of guy wires should be minimized to reduce impacts to migratory birds. Visible markers (bright colored obstruction balls) should be installed on all guy lines to reduce avian collisions.		
35.	Table 2-11	2-97	#15	WSMR	To minimize bird collisions bird diverters or brightly colored obstruction balls should be used not only in areas of heavy bird migration, but on all guy lines securing towers. WSMR has data to		

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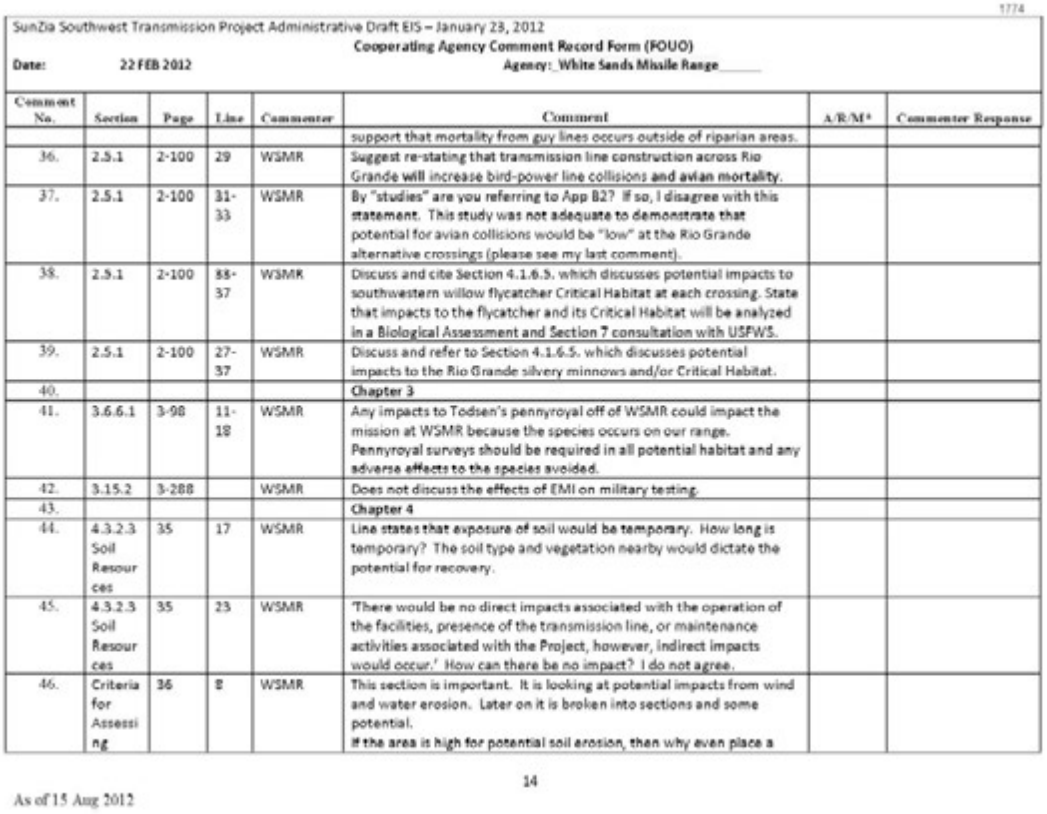
28	*Revised text as follows "Either subroute 1A or 1A1 would have less impact to military flight training and testing operations, as compared to the 1B subroutes, because both 1A and 1A1 would cross the northern portions, but would avoid bisecting the military airspace and Northern Call-up Area.
29	*Avian protection plans will be part of the Final POD for the entire transmission line Project. Also added Standard Mitigation Measure 29 to address raptor protection standards.
30	*Coordination is intended.
31	*Mitigation addressing restrictions on construction and the BGEPA are included in Standard Mitigation Measure 25. Language has been added to Mitigation Measure 25 regarding MBTA.
32	*See comment 31. Mitigation addressing restrictions on construction and the BGEPA are included in Standard Mitigation Measure 25.
33	*Revised text.
34	*Selective Mitigation Measure 15 as revised addresses marking of guywires "To minimize bird collisions, bird diverters would be installed and maintained on groundwires, transmission lines, and/or guywires in areas of heavy bird use (i.e., Rio Grande and other riparian corridors). Groundwires would be replaced with one-inch diameter OHGWs to increase visibility where practicable and appropriate."
35	*Site specific locations where markers are used will be determined as part of the Final POD.



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					support that mortality from guy lines occurs outside of riparian areas.		
36.	2.5.1	2-100	29	WSMR	Suggest re-stating that transmission line construction across Rio Grande will increase bird-power line collisions and avian mortality.		
37.	2.5.1	2-100	31-33	WSMR	By "studies" are you referring to App B2? If so, I disagree with this statement. This study was not adequate to demonstrate that potential for avian collisions would be "low" at the Rio Grande alternative crossings (please see my last comment).		
38.	2.5.1	2-100	33-37	WSMR	Discuss and cite Section 4.1.6.5. which discusses potential impacts to southwestern willow flycatcher Critical Habitat at each crossing. State that impacts to the flycatcher and its Critical Habitat will be analyzed in a Biological Assessment and Section 7 consultation with USFWS.		
39.	2.5.1	2-100	27-37	WSMR	Discuss and refer to Section 4.1.6.5. which discusses potential impacts to the Rio Grande silvery minnows and/or Critical Habitat.		
40.					Chapter 3		
41.	3.6.6.1	3-98	11-18	WSMR	Any impacts to Todsen's pennyroyal off of WSMR could impact the mission at WSMR because the species occurs on our range. Pennyroyal surveys should be required in all potential habitat and any adverse effects to the species avoided.		
42.	3.15.2	3-288		WSMR	Does not discuss the effects of EMI on military testing.		
43.					Chapter 4		
44.	4.3.2.3 Soil Resources	35	17	WSMR	Line states that exposure of soil would be temporary. How long is temporary? The soil type and vegetation nearby would dictate the potential for recovery.		
45.	4.3.2.3 Soil Resources	35	23	WSMR	'There would be no direct impacts associated with the operation of the facilities, presence of the transmission line, or maintenance activities associated with the Project, however, indirect impacts would occur.' How can there be no impact? I do not agree.		
46.	Criteria for Assessing	36	8	WSMR	This section is important. It is looking at potential impacts from wind and water erosion. Later on it is broken into sections and some potential. If the area is high for potential soil erosion, then why even place a		

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36	*Revised text "This area is an important migratory corridor for Sandhill Cranes, geese, and other waterfowl, and transmission line construction may increase the risk of bird–power line collisions and avian mortality; a concern voiced by the USFWS Bosque del Apache NWR management, members of conservation groups, and birdwatching enthusiasts."
37	*Text revised "The potential for bird collisions with overhead transmission lines would be comparable at either of the Rio Grande alternative crossings."
38	*Citation added to (see Section 4.6.4.5)
39	*Revised text Citation added
40	----
41	*Section 7 consultation is underway, and will address potential impacts to Todsen's pennyroyal in detail. Suitable habitat may exist on the BLM preferred alternative (as seen in a field visit September 2012) as well as mitigation routes proposed by WSMR. Preconstruction surveys would take place in any suitable habitat. Most known populations of Todsen's pennyroyal are relatively small and occur on steep slopes. This would facilitate avoidance through spanning or due to engineering constraints.
42	*Effects of EMI on military testing cannot be determined without disclosure of specific test data.
43	-----
44	*Temporary ground disturbance would be associated with the construction phase of the Project. Site remediation and revegetation is treated site specifically in the Plan of Development and would be tailored to individual impacted areas including soil stockpiling and retention during construction activities and unique seed mixtures as suggested by agency consultation during remediation and revegetation.
45	*Revised language to "minimal direct impacts." Indirect impacts are those impacts that are not associated with construction of the Project. Indirect impacts associated with the operation of the Project facilities, presence of the transmission line, or maintenance activities associated with the Project would include such things as increased public traffic into previously undisturbed areas along Project access roads. This concern is primarily associated with increased public OHV traffic along Project access roads.
46	Where areas susceptible to soil erosion cannot be avoided, proper engineering techniques for construction/improvement of access roads and construction of towers would limit the potential for accelerated erosion.

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	Intensity of [Soil] Impacts				pole there? How does this relate to the route segments? The document is hard to piece together.		
47.		37	13	WSMR	If a reclamation plan is to be considered as a mitigation, then the ability to regrow vegetation needs to be considered in the plan. Not all areas are going to re-vegetate at the same rate. If there is wind and water erosion, fertile soil might be lacking, the slope might be too steep, etc. Climate conditions are changing, becoming drier. There are areas that will not restore to near original state very fast.		
48.	4.6.2.1 Vegetation	65	17	WSMR	Riparian woodlands are a vegetation type that does form a closed canopy, but not the only vegetation type susceptible to edge effects. Pinion oak woodlands and grasslands my experience edge effects when there is no vegetation or the vegetation composition changes.		
49.	Vegetation Mitigation Measures		71	WSMR	Consider limiting maintenance activities to seasonal restrictions to reduce the impact to recovering vegetation.		
50.		19	71	WSMR	Noxious weed plan should include cleaning of equipment during construction and after the line is built while performing maintenance.		
51.	Todsen's Pennyroyal	28	86	WSMR	Any impacts to Todsen's Pennyroyal on Chupadera Mesa could have an impact on WSMR, because there are so few populations and most known populations occur on WSMR. Further threats to the Chupadera Mesa could place more pressure on the Army to protect the species compromising realistic Army readiness. Surveys should be conducted to determine the probability or use of the Pennyroyal predictive habitat model.		
52.	4.6.4.4	4-65	2-5	WSMR	Construction will occur outside of nesting season unless clearance surveys (during nesting season immediately before construction) results in no active nests? This should be stated more clearly. USFWS		

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47	*Revegetation is treated site specifically and would be tailored to individual impacted areas including unique seed mixtures as suggested by agency consultation.
48	*Statement added acknowledging that other communities may experience edge effects to a lesser degree. However, statement as written was true as it specified causes of edge effects that would be restricted to riparian woodlands in the study area.
49	*No areas or vegetation communities have been identified that would clearly benefit from seasonal restrictions. However, if specific areas are identified where seasonal restrictions may benefit vegetation; this measure will be considered during development of the final POD. Acknowledge that restricting disturbance during the bird nesting and plant growing season may benefit both groups.
50	*The noxious weed plan does include this measure.
51	*See comment 41 above. Assuming that impacts to any newly discovered populations are successfully avoided, the discovery of Todsen's pennyroyal in a new area would support recovery efforts by increasing the known number of populations and their geographic extent.
52	*Sentences rephrased to clarify.

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					generally considers nesting season in this region to generally be March-August (see Region 2 Empty Nest Policy).		
53.	4.1.6.5	4-231	17-19	WSMR	Strongly disagree with the statement here downplaying potential impacts of avian collisions from power lines. Your EPG 2011 study was not rigorous enough to support this conclusion. Cite other studies if you have them.		
54.	4.1.6.5	4-231	19-22	WSMR	The species of concern for this project are all migratory birds, not just cranes, snow geese, and other waterfowl. Mortality of any bird species protected by MBTA is a violation of the MBTA. The comparison to legal hunting doesn't apply for most other species.		
55.	4.1.6.5	4-231		WSMR	This paragraph downplays the impacts from overhead transmission lines compared to undergrounding, but ignores the fact that transmission lines will be taking birds in perpetuity. The impacts from burying lines are temporary. This section should note that point.		
56.	4.10.3	4-157	Table 4-19	WSMR	High Impact Criteria areas include those "where the Project would create a direct long-term conflict with existing...military...uses). However, this impact level is not applied to those route segments in the WSMR Safety Evacuation Areas and Restricted Airspace which would create a direct long-term conflict with existing military uses. If this criterion were applied as stated in Table 4-19, all of the Route Group 1 routes would have high impacts, and therefore significant impacts. No explanation is given as to why the high impact level is not assigned to these route segments. Moreover, there is no discussion of mitigation of the significant impacts from the direct long-term conflict with existing military uses.		
57.	4.10.6.1	4-158	29-30	WSMR	Subroute 1B3 crosses Department of Army (DA) land. This would physically conflict with policies and goals of DA. For this reason, the impact level of this Subroute should be classified as "High." Subroute 1B3 crosses BLM ROW Exclusion area (see p. 4-166, lines 22-23, and Map 2-4 from Socorro RMP EIS). For this reason, the impact level of this Subroute should be classified as "High."		

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53	*The study, conducted in association with the University of New Mexico, is currently the best available information. No other studies with published information were conducted in similar settings. The study also included an extensive literature review. As Appendix B2 of the EIS, the study and all citations will also be publically available.
54	*Detailed discussion of bird collision is presented in section 4.6, and the risk to all birds is acknowledged. However, large-bodied birds such as those mentioned are at the highest risk, and have been the primary focus of agency concerns related to the proposed Project. The sentence regarding hunting has been revised to clarify how the estimated collision risk from the University of New Mexico study relates to the hunting and natural mortality experienced by these birds. The remainder of the paragraph supports that statement with citations. If a waterfowl species experiences 30% annual mortality from hunting, there could not reasonably be an additional source of mortality over 30%. The sentence has been changed slightly, to read "Annual harvest may total approximately 4 to 10 percent of the population for species with low reproductive rates such as the Sandhill Crane (Kruse et al. 2010), or more than 30 percent for some species of ducks and geese that produce large clutches annually." Citations to support that statement are provided in the following sentence, which continues the same line of thought.
55	*This is correct only as it relates to bird collision. The underground alternative, as described in the text, would require intensive vegetation management, allowing no shrubs or trees of any kind within the right-of-way. This would represent a permanent impact to Southwestern Willow Flycatcher critical habitat, as well as a permanent loss of riparian woodland used by hundreds of other bird species. The underground alternative would also require the construction of two to four transition stations (similar to substations), each 300x600 feet (approximately 4 acres), in the floodplain. There is a high long-term impact associated with the underground alternative.
56	*The definition of high impact describes long term conflict with land uses and recreation resources. The analysis has not identified significant long term conflicts with military uses as a result of the construction or operation of the Project. It is understood the use of the LC-94 could result in higher risk of damages to property on occasions where the facility is used to launch missiles for testing purposes. The effects on the restricted airspace could also require modification to low-altitude training missions to meet safety requirements (4.7.10.2). The discussion of these impacts is included in modified Section 4.10.7.
57	*The policies and goals specifying use of these parcels have not been identified as a potential conflict. Subroute 1B3 crosses through the ROW exclusion area, but per Chapter 2 of the Socorro RMP dated July 2010, "The area within a one-half-mile of Highway 380 in Socorro County will be excluded from the management decisions identified for the Aplomado Falcon habitat area, including the right-of-way exclusion area and closures to fluid mineral leasing and mineral material disposals. See response to comment 56 above

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SunZia Southwest Transmission Project Administrative Draft EIS – January 23, 2012

Cooperating Agency Comment Record Form (FOUO)

Date: 22 FEB 2012 **Agency:** White Sands Missile Range

Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
					As stated above, no explanation is given regarding why the high impact level is not assigned to the portion of Subroute 1B within the WSMR Safety Evacuation Areas and Restricted Airspace which would create a direct long-term conflict with existing military uses.		
58.	4.10.6.4	4-167	3-4	WSMR	This paragraph presents incorrect and incomplete information regarding DOD, DA, and USAF input regarding mission impacts. The mission impact information provided by WSMR, USAF, and DOD should be included as an Appendix to the ADEIS. "DOD recommends that any route parallel or north of E80c.... is acceptable" should be "DOD states that any route parallel or north of E80c ... has less impact." Also link E80d will have significant impact testing out of LC-94. See Attachment 8, New Mexico Study Area Subroutes, November 5, 2010.		
59.	4.10.7.2	4-168-4-169	All	WSMR	Subroute 1A: Correct Subroute 1A1: "... the Project would minimize potential impacts to some of DOD's critical test profiles. However link E80d was also modified to traverse in a flat east/west direction instead of the original WSMR route 2, which slowly headed northwest up and around LC-94. Using the current E80d link will have significant impact to DOD's critical test profiles. Subroute 1B1: This alternative does not significantly avoid the missile (not cruise missile) launch site and still poses significant impact on that launch site, so this is not a true statement See chapter 4.17.4.9,page 305, line 31 of this DEIS, it states link E90 comes within 0.5 miles of the Launch Complex. Also at least E81, E80d, E90, A50, A111, and E101 bisect lands below military Airspace and are at high risk of potential conflict. Subroute 1B2 has significant impact on DoD missions, and not just the launches from LC-94. Missions conducted in the north half of the missile range have safety fans that extend well into the Northern Call-up range. This route would preclude the LC-94 launches and many of the mission in the northern half of the WSMR.		

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As of 15 Aug 2012

1774	Response to Comment
58	*Bullets adjusted to clarify statement on routes north of E80c, and on E80d as follows: DOD states that any route parallel or north of E80c (Local alternative links for 1A and 1B1, links E81, E82-E83-E85, and E82-E84-E85) has less impact DOD states that "link E80d will have significant impact [on] missile testing out of LC-94" without mitigation According to letter from OSD to BLM Director dated May 11, 2011 "segments E80b (renumbered as E80d) and E101 are acceptable as currently drawn; however, segment E80a affects critical test profiles unless E80a can be moved back to the north, along the original Route 2 alignment, we would strongly oppose construction along that segment without significant mitigation." Alternatives to segment E80a (renumbered E80c) were added in response to the OSD direction, north of the Gran Quivira, and included in Subroute 1A1 (links E82, E84, and E85) and Local alternative Link E83. Mission Impact information that was provided as attachments to correspondence is referenced in the EIS, and included in the administrative record.
59	*Language added stating that WSMR states that using link E80d will have significant impact to DOD's critical test profiles. Removed reference to cruise missile. Added additional links that bisect lands below military airspace. Added text referring to the crossing of the safety fans, and added text referring to the potential preclusion of the use of LC-94. Added information in subroutes 1B1 and 1B2, to correct the statement.

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SunZia Southwest Transmission Project Administrative Draft EIS – January 23, 2012

Cooperating Agency Comment Record Form (FOUO)

Date: 22 FEB 2012 **Agency:** White Sands Missile Range

Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
					Subroute 183: "...and would have impacts similar to those noted for subroutes 181 and 182." Again, this is not true. It should state "...and would preclude the use of WSMR for many of its missions.".		
60.	4.17.2	4-239	10-11	WSMR	This section (Future Transmission Lines) should include discussion of additional future transmission lines located in the same corridor as SunZia. The likelihood of this has been acknowledged by BLM, SunZia, NM Renewable Energy Transmission Authority.		
61.	4.17.3.2	4-251	Table 4-55	WSMR	Transmission Lines in Arizona and New Mexico section should include additional future transmission lines located in the same corridor as SunZia.		
62.	4.17.3.3	4-263	15-18	WSMR	The following sentence is unclear: "In light of the Applicant's stated purpose, an attempt to provide an analytical tool has been developed herein to provide a means to assess the cumulative effects of the types of renewable energy projects that may ultimately interconnect with the Project." BLM should explain what the "analytical tool...developed herein" is. The explanation should include discussion of the methodology by which it was developed and the applicant's criteria that were used to develop BLM's tool.		
63.	4.17.4.1	4-272 4-273	36 6, 13, 19	WSMR	The source cited here by BLM appears to be an online "FAQ" from NOAA's NCDC website. This is not an authoritative source. BLM should cite a published research paper or other acceptable authority.		
64.	4.17.4.1	4-273	30-37	WSMR	The analytical approach described in this paragraph is not appropriate. This is not comparing the cumulative emissions from the Project and the other identified emissions sources to the No Action Alternative. It is not appropriate to subtract out unknown and speculative GHG		

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As of 15 Aug 2012

1774	Response to Comment
60	*There are no specific plans for transmission lines that would be located in the same corridor as the Project. It is possible future transmission lines may locate within sections of the corridor, but they would be subject to their own NEPA process.
61	*See comment 60.
62	*The technique of utilizing an analytical tool to help frame potential impacts from speculative future development is something commonly utilized by BLM in the oil and gas leasing context, referred to in that context as Reasonably Foreseeable Development Scenarios. It appears that BLM has adapted this approach for the unique situation presented by the transmission-generation relationship. The full explanation of the analytical tool is already present.
63	*This is the most current information source available.
64	*Modified text "With respect to climate change, renewable energy such as wind and solar have limited GHG emissions, as compared with a conventional fossil fuel-fired generating facility. The renewable energy facilities that the Project is designed to serve could potentially replace a portion of the market demand currently served by older, fossil fuel-fired power plants, or displace a portion of future demand that might otherwise be served by facilities with higher GHG emissions. While the tradeoff cannot be quantified at this time, construction of either of the proposed options could potentially result in a net decrease in GHG emissions relative to the No Action alternative."

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Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
					emission reductions, particularly when a significant portion (50% or more) of the transmission capacity of the Project may be utilized by nonrenewable generation resources.		
65.	Table 4-55	4-244		WSMR	Airports does not include the Las Cruces International Airport		
66.	4.174.4.9	4-305	30-36	WSMR	Multiple times in this paragraph it mentions "cruise missile launch facility". While cruise missiles have been launched at this site, it is not the only type of missile that is launched. A more generic description should be used, such as "missile launch facility" or use the terminology the missile range uses, "Launch Complex". Also this Launch Complex is located within 2 miles of the preferred route E80d so the same possible damage that could be seen by link E90 could happen to link E90d.		
67.	4.174.4.9	4-307	21-25	WSMR	Again, as mentioned above, link E80d is within 2 miles of LC-94 and should be included in this paragraph.		
68.	4.17.4.10			WSMR	This section does not include the cumulative effects of economic impacts resulting from curtailed mission activities (e.g., reduced evacuation payments to ranchers and business owners in the WSMR Safety Evacuation Areas and reduced eco-tourism)		
69.					**Chapter 5**		
70.	Table 5-5	5-4		WSMR	December 2, 2009, should be December 2, 2010		
71.	Table 5-5	5-5		WSMR	The April 27, 2010 lists the Naval Research Lab as attending – are you sure? I don't have the list of attendees, but I can't think of any reason the Naval Research Lab would have attended.		
72.					**Appendix A**		
73.	A.5	A-20	Table – A-6	WSMR	The Linear Features for Natural Gas/Petroleum Pipelines does not include the pipeline that goes between Corona and Belen? Was that considered?		
74.					**AppB1_SunZiaBioTechRpt_2012Jan2012 Why was the Environmental Impacts and Mitigations Section removed from Appendix B1.**		

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1774	Response to Comment
65	*Airport is outside of the study area.
66	*Revised text as noted.
67	*Revised text as noted.
68	*There is no evidence to disclose the extent of curtailed mission activities.
69	----
70	*Date corrected.
71	Comment noted.
72	----
73	*The discussion of alternatives eliminated included the alternative along the pipeline, as described in Chapter 2. The study in Appendix A was conducted prior to the expansion of the study area into Torrance County.
74	The Environmental Impacts Section was moved from Appendix B1 of the DEIS to Appendix B1 of the POD.

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75.	1.1.3	8		WSMR	Section should include NMGF BISON account information; not just information from AZGFD. BISON data is cited in the report which adds some confidence that NM data wasn't entirely ignored. What is the NM equivalent for Species of Concern? Why is it not included here?		
76.				WSMR	Seems that Rangeland Ecological Assessments for New Mexico and possibly Arizona would be a valuable resource that is not included in this report.		
77.					**Appendix B2**		
78.	**App B2**			WSMR	General comments: 1) Bird populations can be highly variable from year to year due to a variety of factors (weather, climate, other events, changes in migration routes, actual changes in population size, etc.), so it's important to conduct avian surveys over multiple years to get an accurate picture of species and numbers present. This study included only two different study periods (Dec 2009-Mar 2010 and Aug-Dec 2010), and therefore I think is insufficient to draw conclusions about which crossing sites would have more or less impacts to birds based on these results. 2) Study design should have counted birds on the same days at all sites to account for daily variations in bird movements. Instead, it appears different sites were surveyed on different days. 3) Survey effort wasn't consistent between surveys. "Each survey was carried out by two or three observers working for four continuous hours. At least one observer on each survey was an expert on bird identification and census techniques." *All surveyors should have been experts in bird identification.* This calls into question the accuracy of bird ID of this study.		

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1774	Response to Comment
75	*BISON-M is an interagency repository of information, but has no planning or regulatory authority so was not discussed in this section. NM state laws were discussed in section 1.1.2.2. AZ Wildlife Species of Concern is a status with no legislated protection. Wildlife species listed by NM do have formal protection, and are listed as threatened or endangered. However, plants in NM may be listed as species of concern or endangered.
76	*The Rangeland Ecological Assessment was reviewed. The document and mapping results are intended to be used at a relatively broad scale. Additionally, mapping coverage was not continuous across the study area in NM – it included the majority of BLM lands and a small portion of non-BLM lands. As a result, applicability of any of the mapping results to specific sites under consideration within the EIS would not be appropriate at this time. However, the mapping methods and reclamation goals and processes laid out in the REA may prove quite valuable in the future, as site-specific reclamation plans are developed. Although the REA states that it should not be used for site-specific decisions as-is, it may form a valuable framework for gathering the necessary information.
77	----
78	*1 - Counting birds was not a primary objective of the study although counts were taken. Movement patterns including height of flight above the Rio Grande were focal points of the work. 2 – Bird monitoring stations were generally occupied on the same days but not always, Again, bird counts per se were not a primary objective. 3 – All people who participated in this study were capable of bird identification. Some were better and more experienced than others; i.e. the "experts". The focus of this study was on Sandhill Cranes and white geese, neither of which is hard for anyone to identify. With nearly 1,200 hours of observation including observation sites where existing lines crossed the Rio Grande, we observed a total of four collisions (three teal and one White-winged Dove) of which two (both teal) were fatal. Although the underground alternative would reduce the collision risk to birds, it would result in substantial impacts to the floodplain and riparian vegetation. The underground alternative would require the equivalent of either two or four substation-like facilities, each approximately 4 acres. No trees or shrubs would be allowed to grow within the right-of-way, as the roots would pose a risk to the duct banks.

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Comment No.	Section	Page	Line	Commenter	Comment	A/R/M*	Commenter Response
					I would caution against using the results of this study to select a river crossing site that would have the least impact on birds. In this case, a small amount of data is not necessarily better than no data because the data may be misleading. I would recommend at least three years of surveys, conducted 4x/year (instead of 2), with experienced observers, and conducting surveys simultaneously among sites. We know that these transmission lines will impact birds that fly up/down the Rio Grande. Unless a site is selected that can be shown to have very little bird use, routing the line underneath the Rio Grande is still the best option to reduce impacts to birds.		
79.					Appendix C		
80.	Appendix C	Table C-3		WSMR	It appears that a number of previously recorded sites along Route Group 1, Highway 380 in the area of Chupadero Arroyo, may not be included within Table C-3. If these sites are in the study area, they should be included in the Class 1 Study.		
81.	Appendix C	C-1 to C-17		WSMR	The cultural resources data for sites and surveys (Appendix C) should use the "Study Area" and not just a portion of each line on either side of the centerline. The list of sites recorded leaves out many of the major masonry pueblos that occur north of US 380 upon which visual effects may occur. It also leaves out archaeological reports that are not CRM oriented. The area north of US 380 has some of the largest pueblos in the state and is very important archaeologically. It has been studied by researchers since the 1930s. These research reports should probably be included as they are part of the "Study Area" mentioned in Chapter 1. One alternative crosses a portion of the recently acquired Mendiburu Ranch property. This data should be included in Appendix C.		
82.	Appendix C	C-		WSMR	No mention of the Mockingbird Gap site, LA 26748 is made in Appendix C. (Near Hwy 380) This site is one of the most important Paleoindian sites in the state. The site is close to one of the route alternatives.		

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As of 15 Aug 2012

1774	Response to Comment
79	----
80	All of the sites identified in NMCRIS within the 0.25-mile Class I study area are included in Appendix C.
81	Appendix C only contains the sites and surveys that were identified within 0.25-mile Class I study area. In consultation with the lead BLM archaeologist, it was decided 0.25 mile from the centerline was an appropriate distance for the Class I. Data for the Class I sites was obtained from approved facilities.
82	Mockingbird Gap and the other historic districts were unintentionally omitted from Appendix C and have been added. **Table C-3** "LA141764 (Mockingbird Gap special management area)" "El Presidio Historic District" "Rillito Race Track Historic District" "Winterhaven Historic District" "Barrio Anita Historic District"

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August 22, 2012

Bureau of Land Management
ATTN: Mr. Adrian Garcia
New Mexico State Office
SunZia Southwest Transmission Project
P.O. Box 27115
Santa Fe, NM 87502-0115

Re: **Comments on the Draft Environmental Impact Statement (DEIS) for the SunZia Transmission Line**

Dear Mr. Garcia:

The Arizona Game and Fish Department (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the SunZia Transmission Line and provides the following comments for your consideration.

1

Arizona Game and Fish Commission Authority

Missing from the DEIS is reference to the Arizona Game and Fish Commission's (Commission) authority over take of wildlife via Arizona Revised Statutes (ARS) Title 17 and Arizona Administrative Code (AAC) Rules Promulgated under Title 17. The Commission has public trust responsibility for wildlife within the state of Arizona irrespective of landownership, excepting those wildlife existing on American Indian trust-status lands.

ARS 17-102 defines the Commission's trust responsibility: "Wildlife, both resident and migratory, native or introduced, found in this state, except fish and bullfrogs impounded in private ponds or tanks or wildlife and birds reared or held in captivity under permit or license from the Commission, are property of the state and may be taken at such times, in such places, in such manner and with such devices *as provided by law or rule of the Commission*" (emphasis added).

ARS 17-101.18 defines take as "pursuing, shooting, hunting, fishing, trapping, killing, capturing, snaring or netting wildlife or the placing or using of any net or other device or trap in a manner that may result in the capturing or killing of wildlife." ARS 17-309 further prohibits the take of wildlife except as authorized under Title 17 or by Commission order.

ARS 17-236 prohibits the taking of injury of any bird or harassment of any bird upon its nest, or the removal of the nests or eggs of any bird, except as may occur in normal horticultural and agricultural practices and as authorized by Commission order.

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The Department is directed by the Arizona Game and Fish Commission (Commission) to seek compensation at a 100% level, when feasible, for actual or potential habitat losses resulting from land and water projects. Of particular concern to the Commission are potential impacts to special category species and/or economically important wildlife species as well as issues which reflect the value, quantity, and quality of habitats which may be impacted by proposed projects.

The SunZia Transmission Line Project has the potential to take wildlife and temporarily and/or permanently degrade wildlife habitat including interruption of migratory pathways and fragmentation of wildlife habitat. As such, the Department believes that that a mitigation plan can be developed that compensates for actual or potential wildlife and habitat losses to 100% of pre-project levels. This plan can be memorialized through a Collaborative Conservation Agreement (CCA).

The DEIS does not adequately address mitigation for impacts to biological resources. Although "Standard Mitigation Measures" and "Selective Mitigation Measures" are proposed, they do not provide for any mitigation or compensation of residual impacts. The Department believes development of a Cooperative Conservation Agreement between BLM, SunZia, Arizona State Land Department, and Arizona Game and Fish Department is an essential component of ensuring adequate mitigation for residual impacts posed by the construction and operation of the SunZia transmission line project.

The Council on Environmental Quality (CEQ) issued a memo dated January 14, 2011 providing final guidance on the appropriate use of mitigation and monitoring under NEPA. This guidance emphasizes that agencies should adhere to mitigation commitments made as part of their environmental analysis, monitor their implementation, and monitor the effectiveness of that mitigation. Adaptive management is an important component of this guidance. The Department is very interested in working with the BLM on developing appropriate mitigation and requests continued involvement with effectiveness monitoring and adaptive management as necessary.

Mitigation as defined in 40CFR 1508.20 includes:

a) Avoiding the impact all together by not taking a certain action or parts of an action
b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation
c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
e) Compensating for the impact by replacing or providing substitute resources or environments

The CCA process has been used successfully for similar projects such as the Ruby Pipeline (www.blm.gov/pgdata/etc/medialib/blm/nv/nepa/ruby_pipeline_project/rod/attachment_h.Par.13831.File.dat/Conservation.Agreement.Final.Executed.06.29.10.pdf). The CCA ensures that the mitigation and monitoring identified in the EIS will be achieved through funds and resources committed in the CCA. Therefore a CCA is integral to the Final EIS. It is important that the

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Mr. Adrian Garcia
August 22, 2012
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1 project proponent be a signatory to the CCA, and that the CCA be a condition of any permit issued by the BLM.

2 Arizona Game and Fish GIS Analysis

The Department has developed a number of tools to categorize and map wildlife resource values on a statewide scale. These tools help to identify impacted wildlife resources and may help to prioritize alternatives areas that have the least impact on those resources. The Department's Species and Habitat Conservation Guide (SHCG) is intended to identify areas of wildlife conservation potential in Arizona at a landscape/statewide scale, ultimately guiding the Department's strategic wildlife goals and objectives. The Department considered five indicators of wildlife conservation value in modeling conservation potential across the state. Each of those indicators, or sub models, was developed as a separate layer that can be used independent of the SHCG model. The sub models were based upon the following:

- The importance of the landscape in maintaining biodiversity - represented by the Species of Greatest Conservation Need (SGCN)
- The economic importance of the landscape to the Department and the community – represented by the Species of Economic and Recreational Importance. (SERI)
- The economic importance of the water bodies and aquatic systems to the Department and the community - represented by sportfish
- Large areas of relatively intact habitats - represented by unfragmented areas
- The importance of riparian habitat to wildlife – represented by riparian habitat.

HabiMap™ Arizona is the public website where these tools can be viewed. Within HabiMap™ Arizona, one can view the SHCG, as well as models depicting the most valuable areas for the other sub models. Several other data layers are available as well, such as species distribution models, Arizona Wildlife Linkages, and Important Bird Areas. The Department also maintains the Heritage Data Management System (HDMS) which contains special category species data, and is in the process of modeling additional critical wildlife habitat linkage areas.

The Department utilized these tools to conduct a preliminary analysis of the potential for impacts of the proposed SunZia Transmission Line Project to determine the adequacy of the DEIS in identifying impacts and mitigation for those impacts. Starting at the Arizona/New Mexico State Line and ending at the terminus in Eloy, the Department evaluated the route alternatives using a 4-mile wide buffer, like that used for the biological resources evaluation in the DEIS.

SHCG

All layers comprising the SHCG (SGCN, SERI, Sportfish, Riparian, and Unfragmented Areas) were rescaled from 1- 10 and combined per the following equation: SHCG = 3.5 × (SGCN + SERI + Sportfish) + Riparian + Unfragmented Areas. The resulting model was reclassified into 6 classes based on quantiles. A value of 6 indicates the highest conservation potential and a 1 indicates the lowest conservation potential.

A comparison of all the Group 4 SunZia route alternatives reveals that Route 4C3 contains the least amount of highest conservation potential areas (value 6). In contrast, Routes 4C2a, 4C2b,

1949	Response to Comment
1	Additional detail regarding ARS and authority over take of wildlife has been added to section 3.6.1.3. "Arizona • Wildlife in Arizona is managed as trust property of the state by the AZGFD, as provided for in Chapter 17 of the ARS and by the Arizona Game and Fish Commission. Chapter 17 of the ARS provides authority to the Arizona Game and Fish Commission to set seasonal restrictions, bag limits, rules regarding methods of take, other rules and regulations regarding fish and wildlife harvest, as well as to provide for proactive management of game and non-game fish and wildlife. • The State of Arizona has no threatened and endangered species laws. The Arizona Game and Fish Commission provides protection for individual species of vulnerable conservation status by setting bag limits for species and through regulation of hunting seasons, including permanent hunting season closure for sensitive species." Multiple options for compensatory mitigation will continue to be developed collaboratively between the proponent, BLM, and cooperating agencies.
2	BLM and EPG appreciate the analysis and the use of the newly developed Habimap as a tool to compare alternative routes. The Unfragmented Areas layer used in Habimap may provide an unbiased comparison of alternatives, provided the layer itself is described appropriately. The layer did not map existing transmission lines or many locally important roads (e.g. much of Cascabel Road in the San Pedro River Valley, or Fort Grant Road and fallow agricultural lands in the Sulphur Springs Valley) as fragmenters. Thus, the proposed transmission line and its access roads would not necessarily affect fragmentation at the level presented in this layer. However, the DEIS (Section 4.6.2.2) does acknowledge that the Project would contribute to fragmentation, particularly in areas without existing access. Additional discussion is included in response to comment 4.

2 and 4C1 have the greatest amounts of highest conservation potential areas (values 5 and 6). The table below presents the percentages of each route's 4-mile buffer within each SHCG class. Note that route 4C3 contains the greatest percentage of the lowest values for conservation potential (value 1=5%, value 2=5%, value 3=14%) in comparison to all the other routes. This is expected because much of the route is through urbanized Tucson.

Conservation Potential	SunZia Group 4 Alternative Routes (SHCG %)							
	4A	4B	4C1	4C2	4C2a	4C2b	4C2c	4C3
1	2	2	2	2	2	2	2	5
2	3	3	3	4	3	3	4	5
3	5	5	4	6	4	4	6	14
4	6	4	2	2	2	2	2	9
5	38	27	22	27	23	23	27	27
6	46	58	67	58	66	67	58	40

SGCN
This model represents a richness index for the Species of Greatest Conservation Need (SGCN) as defined in Arizona's State Wildlife Action Plan (SWAP). The model includes the number of Tier 1a and Tier 1b species (classified by vulnerability scores from the SWAP) according to the following formula: SGCN Score = (Tier 1a × 2) + Tier1b

Resulting scores were rescaled from 1 - 10. Higher model scores indicate the potential for greater species richness in any area. A full description of the model can be found in Arizona's State Wildlife Action Plan (http://www.azgfd.gov/w_c/cwcs_downloads.shtml). Descriptions of the models and metadata for each layer are available on the HabiMap™ Arizona website (http://www.habimap.org).

Conservation Potential	SunZia Group 4 Alternative Routes (SGCN %)							
	4A	4B	4C1	4C2	4C2a	4C2b	4C2c	4C3
1	1	1	1	1	1	1	1	3
2	1	1	1	1	1	1	1	1
3	7	7	5	9	5	5	9	10
4	11	10	7	7	7	6	7	13
5	4	4	4	4	4	4	4	5
6	9	8	9	9	9	9	8	7
7	8	7	9	12	8	8	11	12
8	5	6	9	8	9	9	8	12
9	25	14	17	14	17	18	14	6
10	29	42	38	34	38	39	36	31

2 SERI
This category represents 13 of Arizona's game species. The distribution of game species influences important aspects of wildlife related recreation. When evaluating the effects of changes to this distribution, the Department considers three aspects: demand for the game resource, revenue generated by the game resource for communities in Arizona, and the revenue generated by the game resource for the Department.

Demand for the game resource provides an indication of how important a particular piece of habitat is to the hunters of Arizona for a given species and is represented by the number of first choice applicants divided by the available number of permits for that species. Areas with higher demand are likely to be more important to hunters than areas with lower demand. Revenue generated by the game resource for communities in Arizona provides an indication of the economic importance of a particular area and is represented by the measured hunter days multiplied by the value of a hunter day in purchases of goods and commodities (e.g., gas, food, motel). Areas with high value are used more frequently and provide a greater contribution to Arizona's economy than do areas with lower values.

Finally, the license and tag revenue generated by the game resource provides an indication of how critical an area is economically to the Department. Together, the economic and recreational importance of game species to hunters, the community, and the Department provide a realistic view of the importance of game habitat.

Conservation Potential	SunZia Group 4 Alternative Routes (SERI %)							
	4A	4B	4C1	4C2	4C2a	4C2b	4C2c	4C3
1	3	3	3	3	3	2	2	4
2	1	0	0	0	0	0	0	1
3	1	1	1	2	1	1	2	4
4	9	8	2	3	3	3	3	6
5	20	17	10	11	10	9	11	25
6	3	3	4	4	5	5	5	2
7	5	11	10	15	15	17	16	8
8	6	11	29	24	26	29	27	24
9	19	13	16	16	11	9	13	19
10	32	34	26	21	26	25	20	7

Unfragmented Areas
The Unfragmented Areas model is based on the existence of large, contiguous land masses that aren't fragmented by barriers, the diversity of vegetation types within those land masses, and the importance of those areas to the overall availability of any particular vegetation type within the state. The results were reclassified from 1 - 10 using ArcMap. Higher values indicate higher conservation potential with 10 being the highest and 1 being the lowest.

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2 The majority of the entire SunZia project (all alternative routes) in Arizona goes through some of the least fragmented areas in the state, and certainly in the southeastern part of the state. Further discussion of the importance of large, intact habitat blocks is presented in subsequent sections of this letter.

Conservation Potential	SunZia Group 4 Alternative Routes (Unfragmented Areas %)							
	4A	4B	4C1	4C2	4C2a	4C2b	4C2c	4C3
1	16	14	11	11	12	11	11	30
2	6	8	4	1	4	3	1	6
3	12	12	12	26	12	11	25	23
4	7	3	3	3	3	3	3	3
5	0	0	0	0	0	0	0	0
6	16	16	16	8	16	15	7	0
7	0	0	2	1	1	1	1	3
8	0	0	0	0	0	0	0	0
9	41	41	36	31	33	35	33	25
10	3	6	17	19	20	20	19	11

3 Ranking of Routes

In our analysis of information presented in the DEIS, we ranked each route for the following categories (presented in DEIS Table 2-12, Alternative Route Comparison):

- Relative percentage of the route paralleling existing transmission lines and pipelines
- Total acres of temporary disturbance
- Total acres of permanent disturbance
- Acres of permanent disturbance per mile of route

Route	Existing Transmission lines	Existing Pipelines	Temporary Disturbance-acres	Permanent Disturbance-acres	Permanent Disturbance-acres/mile	Rank Across all DEIS categories
4A	7	5	1	1	7	3
4B	8	8	2	3	8	7
4C1	6	3	4	4	5	5
4C2	3	6	6	6	2	6
4C2a	5	1	3	2	2	1
4C2b	4	2	5	5	2	2
4C2c	2	7	7	8	5	7
4C3	1	4	8	7	1	3

Note: A ranking value of 1 indicates the route with the most miles paralleling existing infrastructure, least temporary/permanent acreage disturbed, or lowest acres/mile of permanent disturbance.

We also ranked each route based upon its relative percentages of SHCG, SGCN, SERI, and Unfragmented Areas. Although SGCN, SERI, and Unfragmented Areas are three of the five categories that compose SHCG, we ranked those categories separately to determine whether there was much difference by route across those specific categories (there was not).

1949	Response to Comment
3	Ranking of routes noted. The overall conclusions tend to be similar to those of biologists involved in preparation of the DEIS. As discussed in the comment, choosing factors to rank alternatives is difficult, can be subjective, and may miss narrowly distributed sensitive resources.

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Route	SHCG	SGCN	SERI	Unfragmented Areas
4A	2	2	2	2
4B	5	5	5	3
4C1	7	6	6	7
4C2	3	2	2	4
4C2a	6	7	7	6
4C2b	7	8	8	8
4C2c	3	4	4	5
4C3	1	1	1	1

Note: A ranking value of 1 indicates the route with the least amount of high conservation potential habitat

Due to the excessive lengths of the alternative routes and the complexity of the HabiMap™ Arizona data layers, comparison of the different routes is in turn a complex undertaking. For example, route 4C3 clearly contains a multitude of areas of low conservation potential due to the previous long-standing disturbance associated with the urbanized Tucson area. However, across the entire course of the route, areas of high conservation potential exist. Therefore, it is important to emphasize that consideration must be given to habitat features not captured in the HabiMap™ Arizona model. A prime example of this is the Aravaipa Canyon area, discussed in greater detail below.

4

Aravaipa – Galiuro Wildlife Linkage (Link C170)

Page 4-62, Section 4.6.3.1 – the DEIS defines significant impacts to biological resources from construction or operation of the proposed action as including, among other things, "fragmentation resulting from the addition of new infrastructure to large, currently intact blocks of habitat". Construction and/or operation of the project along either subroute 4A or 4B would therefore result in significant impacts to biological resources. Portions of both routes would go between the Aravaipa Canyon and Galiuro Wilderness Areas where no infrastructure currently exists. A portion of subroute 4B is also located in the Sulphur Springs Valley, another large, intact habitat block. The Nature Conservancy (TNC) has completed analysis (see attached) which demonstrates that this block of unfragmented habitat including the Galiuro, Aravaipa Canyon, and Santa Theresa Wilderness Areas, comprises the second largest remaining unfragmentated habitat block in the American southwest: only the Grand Canyon is larger.
Included for reference with this letter are TNC's cumulative effects analysis and graphic depiction (below) of the impact of fragmentation across Arizona and New Mexico due to roads and transmission lines. The Department's own unfragmented habitat model, which assesses Arizona only and used slightly different inputs, also indicates that this block is one of the largest remaining unfragmented areas in the state of Arizona.

1949	Response to Comment
4	The DEIS (Section 4.6.2.2) does acknowledge that fragmentation is a potential effect, primarily where the Project would cross areas without existing access. However, evidence remains weak or absent that direct effects of transmission lines on terrestrial, aridlands wildlife are likely to be substantial. The FEIS (Section 4.6.2.2) acknowledges that OHV use would be a potential indirect effect of the Project, but the actual impacts would depend on the application and success of mitigation measures to close or gate access roads. The potential for future development, where identified, is discussed in the cumulative effects section. Section 4.17 has been updated in the FEIS with additional cumulative actions that have been identified. Discussion has been added to section 3.6.7.7 regarding the Galiuro-Santa Teresa habitat block, and the size of that habitat block relative to others in the Southwest. "The Aravaipa Wilderness is centrally located within one of the largest habitat blocks remaining in the Southwest that is unfragmented by highways, canals, and other barriers to wildlife movement. The Galiuro, Winchester, Santa Teresa, and the northern Pinaleño mountains are not crossed by any paved roads or major infrastructure."

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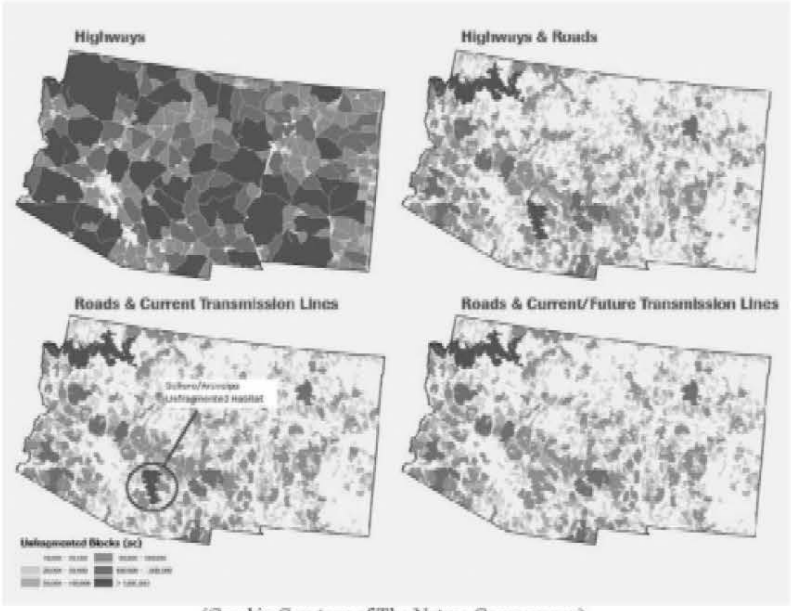

(Graphic Courtesy of The Nature Conservancy)

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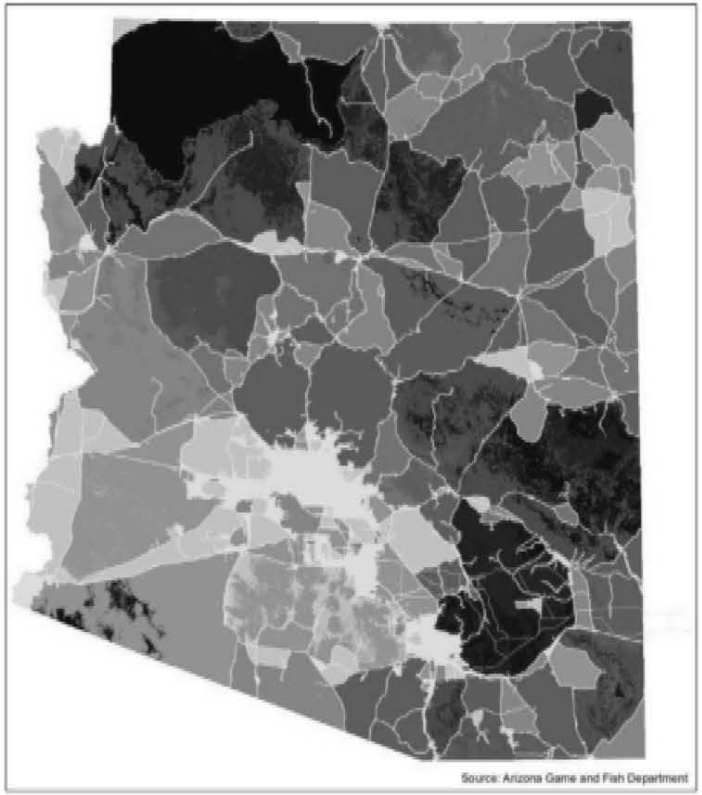
4

Unfragmented Areas in Arizona



Lightest blue indicates highest degree of fragmentation
Darkest blue indicates lowest degree of fragmentation
Yellow line indicates SunZia Transmission Line Alternative Routes

4 Page 4-64, Section 4.6.4.2 – impact levels are categorized as low, low-moderate, moderate, moderate-high, and high. High impacts are those which "may include substantial, permanent fragmentation and loss of function, and may involve substantial loss of acreage of the community type in the region. This level of loss would affect not only the vegetation, but the wildlife that is dependent on the plant community for sustenance, habitat, or as part of a movement corridor" (emphasis added).

5 Link C170 would bisect an important wildlife movement corridor between Aravaipa, the Santa Theresa Mountains, and the Galiuro Mountains. This area is a significant travel corridor between the Redfield Canyon and Aravaipa Canyon bighorn sheep metapopulations. The Department has ear tagged and collared sheep in both places and documented movement between these two areas. These two sub-populations are surveyed together and managed as one unit. Disturbance in the area south of Aravaipa Canyon (Link C170) that would limit sheep movements through this corridor would fragment two very important gene pools. A resident of the Aravaipa Canyon area and retired population geneticist recently published a paper that stressed the importance of keeping Aravaipa Canyon sheep genetically connected to any other population for its own health (Hedrick 2011). This sheep population is special to the Department and our constituents. It is the first sheep population the Department recovered with a translocation from elsewhere and has gained world-wide fame as one of the best trophy desert bighorn sheep destinations in the world. In addition to its importance for bighorn sheep, this area also provides good habitat for other game species such as whitetail deer, bear, and javelina.

6 Finally, this is an area of habitat untouched by roads, utilities, or other similar disturbance; a remote, extremely rugged landscape with minimal human presence, where access is possible primarily by foot or by horseback. The introduction of a disturbance such as the SunZia Transmission Line Project into one of the largest unfragmented blocks of wildlife habitat in the Southwest will forever transform this area and diminish its unique value to wildlife and people.

7 Route 4B
This area is important habitat for a small and declining pronghorn antelope population. Primary threats to pronghorn in this area are anthropogenic habitat modification through development and agriculture. With the increased urban development along Fort Grant Road north of Willcox, the small stretch of undeveloped land south of Bonita, has become the major corridor for pronghorn along Fort Grant Road. The Sulphur Springs Valley pronghorn face increasing habitat fragmentation and movement barriers. Preserving, enhancing, and restoring movement corridors for pronghorn in Game Management Units (GMU's) 31 and 32 (containing the Pinaleño and Galiuro Mountains, respectively), has become a special concern for the Department. Links C121, 130a, and 130b are of particular concern as they could further diminish genetic exchange between the subpopulations in these two GMU's. Depending upon the extent of ground disturbance created by the project, fencing, increased invasive plants, and impacts on fire and vegetation management, this route could negatively impact the pronghorn throughout the Sulphur Springs Valley. If any fences are constructed along access roads, they should be in accordance with Arizona Game and Fish Department's Wildlife Compatible Fencing Guidelines.

8 Section 4.6.4.4, under the heading *Aquatic, Large wading, and Shore Birds*, please add text regarding the large flocks of wintering waterfowl, including sandhill cranes, that fly back and

1949	Response to Comment
5	Text has been added to sections 3.6.7.7 and 3.6.7.8 of the EIS, highlighting the regional importance of this Desert Bighorn Sheep metapopulation. 3.6.7.7 "The Aravaipa Wilderness contains 19,410 acres of BLM-administered land located approximately 12 miles northeast of Mammoth, Arizona. Aravaipa Creek supports seven native fishes, including the endangered Loach Minnow (*Tiaroga cobitis*) and Spikedace (*Meda fulgida*), and is considered the best remaining native fish habitat in Arizona (BLM 2009b). Aravaipa Creek downstream of Stowe Gulch is designated critical habitat for the Loach Minnow and Spikedace. Critical habitat for the Spikedace and Loach Minnow ends at the Aravaipa-San Pedro River confluence (USFWS 2007b). *The Aravaipa Wilderness and surrounding areas in the Galiuro and Santa Teresa mountains* supports a regionally important population of Desert Bighorn Sheep. White-nosed Coati (*Nasua narica*) and many other wildlife species are present, including 150 bird species documented within the wilderness boundary. The ESA-listed Southwestern Willow Flycatcher also occurs in the wilderness. Special-status species include the Cactus Ferruginous Pygmy-owl, Common Black-hawk (*Buteogallus anthracinus*), and the Northern Peregrine Falcon. Public uses of the wilderness include hiking, photography, and wildlife watching. Limited hunting with certain restrictions is permitted within the wilderness area (BLM 2009b). Link C170 crosses a nonperennial portion of Aravaipa Creek approximately 4.5 stream miles upstream from the boundary of Loach Minnow-Spikedace critical habitat. Link C592 crosses the San Pedro River approximately 8 river miles upstream from the San Pedro-Aravaipa Creek confluence." 3.6.7.8 "The Muleshoe Ranch CMA consists of 55,000 acres of private and publicly owned lands in the Galiuro Mountains, Winchester Mountains, and northern Sulphur Springs Valley; approximately 15 miles northwest of Willcox, Arizona. The CMA is jointly managed by TNC, the BLM, and USFS. The seven perennial streams within the CMA support five native fish species, including the endangered Gila Chub (TNC 2011). *The CMA also supports Desert Bighorn Sheep that are part of a metapopulation associated with herds in the Aravaipa Wilderness.* All regulations and guidelines pertaining to public land apply to those lands within the CMA." Transmission lines do not appear to fragment Bighorn Sheep habitat or movement corridors or alter behavior substantially. However, disturbance could occur during construction and maintenance. Text has been added to section 4.6.5.4 of the EIS reflecting that seasonal avoidance would be implemented for any seasons identified as sensitive for that population. Indirect effects of OHV use would depend on the final reclamation plan for access roads required for construction. Complete road closure remains an option, but some measures may not be committed to until the final POD.
6	Similar to comment 5, long-term direct effects of transmission lines on most terrestrial wildlife in the region have not been identified as being significant. Increased bird predation is not expected to occur, as natural perches and nest sites are present. Isolated patches of piñon-juniper woodland are present, although many of these trees are in drainages that would be spanned, and vegetation management needs would be minimal. Disturbance of wildlife would be limited to construction and maintenance.

1949	Response to Comment
7	This Pronghorn population is discussed in the DEIS, but additional detail has been added. Vegetation management planning remains the primary mitigation measure yet to be determined, as fencing construction to the needs and specifications of the landowner is a standard mitigation measure as is noxious weed management. Vegetation management is anticipated to be conducted in a way that would either have no negative impact on Pronghorns, or may benefit them by reducing shrub cover within the right-of-way. Fire management would be conducted as needed to maintain integrity of the Project, although unplanned fires may occur. 3.6.7.6 "The Bonita Grasslands Restoration Project was initiated by the AZGFD in partnership with private land owners on an aggregation of Arizona State Trust Lands and private lands in the northern Sulphur Springs Valley, north of Willcox, Arizona. The project plan is to restore 20,000 acres of grassland habitat over the next 10 to 15 years. The restoration will support an existing Pronghorn population and restore connectivity between the Bonita and Southern Greasewood Pronghorn herds. These populations have been the subject of intensive, active habitat management and monitoring. Populations have varied widely but declined overall since monitoring began, in response to ongoing habitat degradation, development, and other factors. Grassland habitat is also important for Scaled Quail (Callipepla squamata), Botteri's Sparrow (Aimophila botterii), Cassin's Sparrow (A. cassinii), and other Chihuahuan grassland bird assemblages and general wildlife (AZGFD 2010)." 4.6.4.6 (moved from 4.6.4.7) "Bonita Grasslands Restoration Project Potential impacts to the Sulphur Springs Valley Pronghorn population could include habitat fragmentation, disturbance of animals during fawning season, and creation of new access within the valley into previously undisturbed areas. Structures could provide new hunting or nesting perches for Golden Eagles, which may prey on Pronghorn fawns; new access roads could potentially encourage development in the valley or support recreational traffic, which could potentially disturb Pronghorns; and disturbance of grassland vegetation could provide opportunities for colonization by noxious weed species that may alter the local plant community. Regular burning is a common management tool to maintain large areas of healthy grassland by eliminating shrubs such as mesquite. The presence of the Project could present a logistical barrier and safety hazard if prescribed burning were desired in the Sulphur Springs Valley. However, shrub management in the area is primarily mechanical at present. Standard mitigation measures that address erosion prevention, vegetation preservation and restoration, noxious weed management, and access control, as well as SE 1, 3, 4, 5, 6, and 12, would minimize effects to grassland habitat and impacts to Pronghorn in the valley. *Any new or replaced fencing would be designed to be permeable to Pronghorn movement.* Construction and non-emergency maintenance would be limited to take place outside Pronghorn fawning season. Potential for impacts to Pronghorns would exist primarily during Project development; there would be minimal potential for impacts during the operations phase."

1949	Response to Comment
8	Link C110 is parallel to two existing transmission lines. No information on either monitoring or reports of collisions with those lines was found during preparation of the DEIS. Presumably, siting new transmission lines near existing transmission lines would have a lower impact than siting them elsewhere, and overall visibility to birds of all lines in the utility corridor may be increased. Other links crossing the Sulphur Springs and San Simon valleys may present a higher collision risk, which would be primarily addressed by the application of bird diverters or similar devices. Segments of transmission line experiencing heavy bird use and requiring application of diverters would be identified in detail prior to construction. The importance of economic contributions of agriculture and tourism/recreation are noted in the DEIS, Section 3.13.6.1.

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8 forth between the Sulphur Springs Valley, Willcox Playa, and Whitewater Draw areas. Links C110, C121, C90, C130a, and possibly B150a and B150b cross very important sandhill crane flyways to and from roosting and feeding areas. Subroutes 3A1 (link B150a near San Simon, and possibly B150b), 4B (links C90 and C130a), and the eastern portions (through the Sulphur Springs Valley) of the 4C routes (links C90, C110, and C121) all pose collision hazards for cranes and other wintering waterfowl using agricultural fields in the area. Utility lines are a documented source of mortality for cranes due to their inability to quickly maneuver to avoid unseen obstructions during low visibility events (*i.e.*, fog, storms, or nighttime migration). Utility lines through this area would cause outright mortality and could alter the feeding patterns and flight patterns of the birds in this population. This is a critical winter roosting area and has significant benefit to the local economy. The Wings Over Willcox Birding and Nature Festival attracts about a thousand people to the area over a single weekend each January, with a steady influx of additional visitors throughout the season and beyond.

9 Residual Impacts

Residual impacts are mentioned on page 4-63, but no do not appear to be addressed anywhere else with regard to biological resources. Chapter 4 presents in tabular format number of miles of residual impacts for earth and water resources. Please add a similar table quantifying residual impacts to biological resources. Also, please include a statement to the effect that residual impacts will be further identified and mutually agreed upon mitigation and/or compensation will be determined in consultation with the Arizona Game and Fish Department via a Cooperative Conservation Agreement, and will be included in the Plan of Development.

10 Impacts

Section 4.6.4.2 is titled *Impacts and Mitigation Measures for Vegetation*, yet there is no discussion of the impacts, only descriptions of impact levels and proposed mitigation measures. Without an actual discussion of impacts, adequate mitigation cannot be determined.

11 Section 4.6.4.4 *Impacts and Mitigation Measures for General Wildlife Categories and Special Status Species* does not define or discuss impact levels for "general wildlife". Please add appropriate text so the content of this section accurately reflects the title.

Other Projects

Of highest concern to the Department is the potential for the SunZia Transmission line to facilitate cumulative effects which would cause further fragmentation of the Galiuro/Aravaipa wildlands through co-location of proposed infrastructure such as the Interstate 10 Bypass which identified this route as a viable solution to an identified problem and need. The Arizona Game and Fish Commission passed a resolution in opposition to all proposed routes for the I-10 Bypass proposal.

Clearly in the planning of future development projects, planners, designers, and analysts generally look for existing infrastructure or otherwise disturbed areas as a first choice in siting new projects. Therefore, if SunZia is granted a ROW permit through currently unfragmented habitat in the Aravaipa/Galiuro wildlife linkage area, there is a very high probability that future project proponents, planners, and agencies would consider the SunZia transmission line for possible co-location of linear projects. In addition, existence of the transmission line may present

1949	Response to Comment
9	Residual impacts to wildlife may be impossible to capture with a reasonable degree of accuracy in tabular form. In general, the extent of impacts is assumed to roughly correlate with ground disturbance, but a summary table would mask higher-value sites. These are better described subjectively with text. This has been clarified in the FEIS. 4.6.4.4 now begins with this introduction: "Mitigation Measures for Wildlife This section describes how selective mitigation measures would be applied to minimize direct impacts to wildlife, and indirect impacts through modification or loss of habitat. Although specified in further detail in Section 4.6.4.5, these measures would also benefit any special-status species that may be present." The discussion of impact levels for special-status wildlife was moved from Section 4.6.4.4 to 4.6.4.5.
10	Section 4.6.4.2 references Table H-6, which lists impacts for vegetation. Direct loss of vegetation is assumed to be the primary impact, although special cases (biological soil crusts, impacts to certain vegetation communities) are discussed in the following section on mitigation.
11	Structure of this section has been modified. Impacts to general wildlife were not quantified in a single measure, but sensitive sites and concerns are described in the text. An introductory paragraph has been added to describe this. The impact levels description has been moved to 4.6.4.5, which discusses individual special-status species. Also, see response to comment 9.

opportunities for new power generation facility connections (i.e., commercial scale solar energy generation facilities).

The Arizona Department of Transportation (ADOT) stated in their 2008 I-10 Bypass report that "As currently planned, I-10 will be inadequate to meet the long-term needs of the Interstate System and the Tucson Metropolitan Area." Of the solutions proposed, ADOT concluded that "the long-term development of an alternative route to I-10 appears to be the best solution to the foregoing described issues. A preliminary assessment of several alternative routes was explored in the *I-10 Phoenix-Tucson Bypass Study*. Of the alternatives studied, "Route 4" (referred to as the "Western Corridor" in the *Southern Pinal-Northern Pima County Corridor Definition Study*) appears to offer the most potential."

Several of the considered routes were very similar to several of the SunZia considered routes. The need for this I-10 Bypass remains; in 2008 ADOT identified the most practical route as one to the west of Tucson, however the Department believes that this route is non-viable due to the Tucson Mitigation Corridor which precludes development within its boundaries. If SunZia were granted a ROW permit for either subroutes 4A or 4B, ADOT may seriously consider an I-10 Bypass route through the unfragmented habitat between the Aravaipa Canyon and Galiuro Wilderness Areas. They have, in fact, stated that it would be no more technically infeasible than the existing Highway 87. If the SunZia Transmission Line has already bisected this area, co-location of future infrastructure is not only foreseeable, but will be inevitable absent a legal instrument preventing such co-location.

12 Because the I-10 Bypass study has already identified that this route is a viable alternative and that the bypass is necessary, the Department believes BLM must consider the bypass as a potential cumulative effect of the SunZia Transmission line under NEPA. Moreover, BLM must consider that the choice of this route for the SunZia line may significantly increase the attractiveness of this route for the I-10 Bypass.

13 Mitigation Corridor Needed

Clearly one of the largest concerns for the Department when considering large linear infrastructure projects are the fragmenting effects through large blocks of unfragmented habitat. The Tucson Mitigation Corridor was developed as mitigation for the CAP canal and has successfully prevented further degradation of that wildlife habitat linkage. The SunZia project will fragment many habitat blocks over the entire 500+ miles of the transmission line. One way to mitigate for this fragmentation would be to develop a mitigation corridor between the Galiuro and Aravaipa Wilderness Areas so that this area can no longer be easily threatened by such development.

Access Roads

14 Although there is mention of the possibility of using helicopters to construct the towers as a means of minimizing impacts in sensitive habitats, the DEIS does not provide a complete discussion of access needs for such areas. We recommend providing a complete description of all access needs for pre-construction activities (i.e., geotech surveys, environmental surveys), construction (i.e., equipment and drilling activities for boring anchor holes, concrete mixing and pouring, equipment access to each tower location and tensioning sites, etc.),

1949	Response to Comment
12	On March 21, 2008, Arizona State Transportation Board decided to eliminate the routes through San Pedro Valley from consideration for the I-10 bypass.
13	Comment noted
14	Information regarding access roads and construction details will be provided after engineering work is completed and provided in the Plan of Development.

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14 operation/maintenance/inspection/emergency repairs. The Department assumes that even with the use of helicopters for tower construction, the proponent would still require access roads to every tower location and tensioning site (and possibly others).

15 By far, Link C170 contains the longest continuous stretch of route alignment within the Arizona portion of the project with slopes greater than 35%, which therefore would necessitate the greatest amount of disturbance to build access roads. If BLM issues a ROW grant for any of the routes through the currently unfragmented habitat in the Aravaipa Canyon area (4A, 4B, 4C1), the Department requests that BLM consider a stipulation within the grant requiring that either a) the project be constructed without any newly constructed access roads, or b) once project construction is complete, the project owner completely restore all disturbed areas (except those requiring "permanent" disturbance, i.e., towers) to pre-disturbance conditions, and all subsequent activities related to operation of the line would be via roadless access. In the event of any emergency conditions requiring access that results in ground disturbance, restoration to pre-disturbance conditions would also be required.

16 NESC/NERC Vegetation Management Standards
Although the DEIS makes reference to vegetation management standards in several places, the information as presented is somewhat misleading. The NERC standards for Minimum Vegetation Clearance Distances (MVCD) refer to the minimum allowable distance between conductors and vegetation, not any specific vegetation height as implied by the DEIS. The Department recommends adding further clarification in this section, explaining what the 12-foot allowable vegetation height is based upon: if it is a calculation based on the typical tower height, maximum sag of the conductors, voltage of the line, and minimum separation between the conductor and the nearest vegetation, please state it as such. It is our understanding that a utility provider may choose to exceed the MVCD; some utilities choose to remove all vegetation above low shrub height. We would like to offer input in the development of the vegetation management plan for the project, as there may be opportunities for enhancement of wildlife habitat values while still maintaining acceptable safety and reliability standards for operation of the transmission line.

17 Golden Eagles
The Department conducted golden eagle surveys in southeastern Arizona in 2012. We recorded a number of eagle sightings and documented breeding eagles within 10 miles of the project area within the Santa Teresa, Pinaleño, Winchester, Dos Cabezas, and Little Dragoon Mountains. The Department recommends that construction in areas within one mile of occupied nests occur outside of the breeding season for golden eagles (August to December). In addition, we recommend ongoing coordination between the Department, BLM, SunZia, and any other relevant land managers to ensure appropriate eagle mitigation is included in the POD.

18 Plan of Development
The Department requests continued involvement in the drafting of the project Plan of Development (POD). Topics of particular interest to the Department are

- Full disclosure of maintenance/repair, operations, procedures, access routes and modes of transport for such activities. We are interested in discussing opportunities to avoid and minimize habitat impacts by employing techniques that are "softer on the land" such as

1949	Response to Comment
15	Stipulations that require selective mitigation measures will be provided in the ROD and right-of-way grants.
16	Comment noted
17	USFWS will be the primary agency with which BLM will coordinate surveys and mitigation planning for eagles, although the process will involve all appropriate agencies.
18	Comment noted

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helicopter transport of drilling rigs and other equipment needed for construction, or other techniques that do not create as large an area of impact as conventional techniques regularly used in non-sensitive areas.

- Stipulations to ensure successful re-vegetation, erosion control, and plant relocation – some mechanism needs to be in place to ensure success (adaptive management, so if the planned methods don't achieve full success, something else is tried, until successful).
- Development of adequate mitigation and/or compensation for lost ecological resources (*e.g.*, habitat loss and damage to wildlife resources).

Other Comments

19

Appendix H: it would be more useful for comparing routes if the major points of impact level evaluation for the BLM preferred alternative were included in each resource table, rather than referring the reader back to Chapter 4.

20

Please quantify by route and alternative linkages, the acreages of both temporary and permanent impacts, by vegetation community.

21

As we have stated in previous letters, wherever possible, we strongly recommend siting projects along existing utility corridors, roadways, or other previously disturbed areas. Of all the alternative routes, 4C3 (Tucson) encompasses the greatest percentage of previously disturbed areas, parallels the greatest distance of existing transmission lines, contains the least amount of areas of highest conservation potential, and avoids fragmentation of Arizona's second greatest remaining area of intact, unfragmented habitat.

If you have any questions regarding this letter, please contact Ginger Ritter at (623) 236-7606 or Kristin Terpening at (520) 388-4447.

Sincerely,

John Windes
Habitat Program Manager, Region V

JDW:kt

Attachments: AGFD Unfragmented Areas Map
TNC Cumulative Effects Analysis and Graphic

cc: Kristin Terpening, Habitat Specialist, Region V
Ginger Ritter, Project Evaluation Specialist, WMHB
Raul Vega, Regional Supervisor, Region V

AGFD #M12-05242005

1949	Response to Comment
19	Comment noted
20	Vegetation acreage and impact levels have been added into FEIS, in Appendix B4. Additional detail on methods to estimate ground disturbance has been added in Appendix I.
21	Comment noted

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References

Hedrick, P.W. 2011. Rapid Decrease in Horn Size of Bighorn Sheep: Environmental Decline, Inbreeding Depression, or Evolutionary Response to Trophy Hunting? Journal of Heredity (November-December 2011) 102 (6): 770-781.

1949	Response to Comment
	See following page(s)

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Cumulative Effects Analysis for Proposed Sunzia Transmission Line

Rob Marshall, Dale Turner, and Dan Majka, The Nature Conservancy

June 18, 2012

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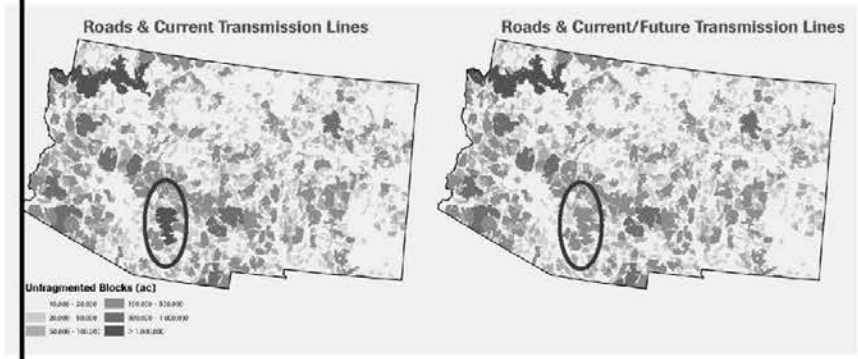
To evaluate cumulative effects associated with the proposed Sunzia transmission line we looked at the current status of habitat fragmentation across Arizona and New Mexico from roads and transmission lines. We then compared the current baseline condition to a future scenario that included the 20 transmission line proposals across Arizona and New Mexico currently in some phase of planning (see table at end). We did not consider pipelines in this analysis but note that pipelines similarly fragment habitat and would further amplify this type of analysis.

The graphic below compares the baseline condition to the future scenario. The largest remaining habitat blocks are indicated by progressively darker shades of green. The red polygon depicts the area encompassed by the Galiuro Mountains, Aravaipa Canyon, and Santa Teresa Mountains. The graphic to the right illustrates the change in size of this habitat block from the proposed Sunzia line.



The two graphics below plot the distribution of habitat patch sizes in acres across Arizona and New Mexico. All patches smaller than 20,000 acres were excluded from the analysis to make the size of the graphic more manageable. The left graphic illustrates how the current baseline condition is skewed considerably to the right, meaning the landscape of Arizona and New Mexico is comprised predominantly of small habitat fragments. This graphic also illustrates that outside of the Grand Canyon, there is no habitat block larger than the Galiuro-Aravaipa-Santa Teresa area. The graphic to the right illustrates the change in ordinal position and size of the Galiuro-Aravaipa-Santa Teresa area from siting Sunzia across the axis of this area.

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22	Comment noted. The Nature Conservancy provided this information as a part of their comments on the DEIS. Relevant information has been included in Section 4.6 of the FEIS

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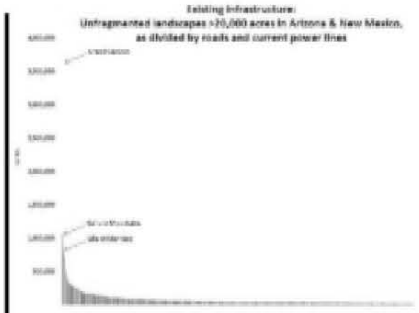

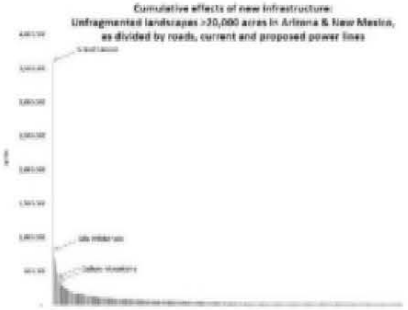

The take home from these analyses is that the Sunzia transmission route proposed to cross the Galiuro-Aravaipa-Santa Teresa area would split in half the second largest unfragmented landscape remaining in the southwestern U.S. and introduce habitat disturbance into an area where, for example, there are no paved roads and no roads that cross over the axis of the Galiuros from Aravaipa Valley to the San Pedro River Valley, or from Aravaipa Valley over the Santa Teresas into the Gila River Valley. With the Southwest's largest remaining intact area, the Grand Canyon, already in protected status, it raises the question of whether mitigation measures are even possible for disturbances to the region's second largest intact landscape.

Implications

The Galiuro-Aravaipa-Santa Teresa area encompasses over 100,000 acres of intact, high value wildlife habitat. The area maintains the full complement of wildlife from large mammals (mountain lion, black bear, bighorn sheep, mule deer, white-tailed deer), to highly limited species such as Gould's turkey and the threatened Mexican spotted owl. The Aravaipa area, alone, includes over 500 species of plants and birds, 45 mammals, and 67 amphibians and reptiles. The streams on the Muleshoe Ranch and Aravaipa Canyon are the best refugia remaining for the states' imperiled native fish species. The abundance of the area's bighorn sheep population has enabled the Game and Fish Department to transplant animals from Aravaipa to supplement bighorn populations elsewhere in Arizona.

For over 30 years the Nature Conservancy, in cooperation with BLM, USFS, AZ State Land Department, and AZ Game and Fish Department, has been managing the Aravaipa tablelands and Muleshoe Ranch areas with prescribed and wildland fire. BLM's Muleshoe Ranch and Aravaipa Ecosystem Management Plans both include habitat management objectives that call for the continued use of prescribed and naturally-occurring fire. When USFS's Firescape planning is completed this management practice will be available throughout the Galiuros helping to ensure that the areas grasslands are not encroached by shrubs to the degree that would alter habitat for grassland species or movement corridors for wildlife such as bighorn sheep.

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Existing transmission lines across the two-state area range in size from 46 kV to 500 kV. Direct and indirect effects will likely vary depending upon the size of the line, type of habitat the line traverses, soil types, and topography, among other things. However, the role of fire in managing grassland and forested habitats is rarely considered in the siting of transmission infrastructure. For example, BLM's DEIS for Sunzia addresses fire suppression concerns but omits mention of fire as a habitat management tool in the area.

Because of the significant liabilities transmission providers face if they incur outages due to vegetation management, placement of line across the Galiuro-Aravaipa-Santa Teresa area would severely limit, if not preclude entirely, the use of fire as a management tool to maintain sustainable wildlife populations. Along with fragmentation effects of transmission lines, the exclusion of fire from habitats historically maintained by fire will result in habitat loss for species dependent upon grassland and forested habitats. Moreover, limiting the use of fire as a management tool increases the chance of catastrophic wildfire in an area with few roads and limited access for fire suppression activities, which would introduce a constant threat for any new infrastructure. Use of fire is the only practical tool to manage habitat for an area of this size. It is the lack of extensive infrastructure in this area that has made habitat management using fire practical, something that has become increasingly difficult to accomplish elsewhere as urban, suburban, and exurban development encroach into prime wildlife habitat throughout the state's forests and grasslands.

Proposed Transmission Lines in Arizona and New Mexico in Some Phase of Planning

1. Navajo Transmission Project (500kV)
2. PNM Tap to Rio Puerco (345 kV)
3. PNM West Mesa to San Juan (345 kV)
4. Lucky Corridor (500 kV)
5. High Plains Express (500 kV)
6. Roosevelt to Curry (138 kV)
7. Sunzia SW (500 kV)
8. Southline Transmission Afton to Apache (345 kV)
9. TEP Greenlee to Springerville (345 kV)
10. TEP Vail to Winchester ((345 kV)
11. TEP Nogales to Gateway (345 kV)
12. TEP Nogales to Tortolita (345 kV)
13. TEP Nogales to Westwing (345 kV)
14. Palo Verde to Saguaro (500 kV)
15. Pinal Central to Pinal West (500 kV)
16. APS TS3 to Liberty (230 kV)
17. Morgan Sun Valley Project (500 kV)
18. Delaney to Sun Valley (500 kV)
19. Palo Verde Hub to North Gila (500 kV)
20. APS Mesquite Generating Station to North Gila (230 kV)

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United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Region
Phoenix Area Office
6150 West Thunderbird Road
Glendale, AZ 85306-4001

IN REPLY REFER TO:
PXAO-1500
ENV-7.00

MEMORANDUM

To: Mr. Adrian Garcia, Project Manager, SunZia Southwest Transmission Project, Bureau of Land Management, P.O. Box 27115, Santa Fe, New Mexico 87502-0115

From: Randy N. Chandler
Area Manager

Subject: SunZia Southwest Transmission Project Draft Environmental Impact Statement (EIS) Comments

We appreciate the opportunity to provide comments on the Draft EIS for the SunZia Southwest Transmission Project. The Bureau of Reclamation recognizes and supports the need for renewable energy sources. However, we encourage the Bureau of Land Management to consider potential impacts to the unique ecological resources that occur within the vicinity of the proposed project. Our comments are primarily directed to your Preferred Alternative (Subroute 4C2c) as it applies to Route 4 (Willow-500 kV to Pinal Central). Our comments relate to two separate issues: (1) Acquisition of a Land Use Agreement and completion of National Environmental Policy Act (NEPA) compliance for the SunZia Transmission Project to cross the Central Arizona Project canal or Non-Indian Irrigation Districts, and (2) Consideration of impacts to Reclamation fee title or Conservation Easement properties along the San Pedro River corridor.

Compliance Requirements for Utility Crossing of the Central Arizona Project (CAP) Canal

1 The Applicant will need to file for a land use application with the Central Arizona Water Conservation District. Only transverse crossings across CAP right-of-way will be considered as lateral encroachments will not be allowed. Upon approval, a Land Use License would be granted for utility right-of-way. Land Use Licenses are typically granted for 25 years, with an option to extend for an additional 25-year term. In addition, NEPA compliance must be completed prior to issuance of the Land Use License granting right-of-way crossing CAP lands.

Compliance Requirements for Utility Crossing of the Non-Indian Irrigation Districts

2 As a part of the CAP, the United States (acting through Reclamation) constructed and retains easements for various Non-Indian Distribution Systems in Pinal County. These include the facilities for the New Magma Irrigation and Drainage District, Central Arizona Irrigation and

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1	Comment noted
2	Comment noted

2 Drainage District, Hohokam Irrigation and Drainage District, and the Maricopa Stanfield Irrigation and Drainage District, among others. The Applicant will need to file for a land use application directly with the affected Districts. Only transverse crossings across District right-of-way will be considered as lateral encroachments will not be allowed. Upon approval, a Land Use License would be granted for utility right-of-way. Land Use Licenses are typically granted for 25 years, with an option to extend for an additional 25-year term. In addition, NEPA compliance must be completed prior to issuance of the Land Use License granting right-of-way crossing these CAP related lands.

San Pedro River Corridor

3 Reclamation has purchased or acquired conservation easements on several properties along the San Pedro River to mitigate impacts associated with our projects. We have also constructed two fish barriers, in Hot Springs Canyon and on Aravaipa Creek, pursuant to requirements under separate Endangered Species Act Biological Opinions. We would like to reiterate our concerns for the protection of these sites.

Reclamation has invested approximately $6.8 million on the acquisition and/or protection and management of approximately 2,580 acres of land along the San Pedro River as mitigation for CAP-related impacts. These properties (listed below) are located (Figure 1) between Benson and Dudleyville along the San Pedro River in Arizona:

NAME	LOCATION	OWNERSHIP	ACREAGE
San Pedro River Preserve	Dudleyville	Conservation Easement	860
Cook's Lake	North of Mammoth	Fee Title	150
Spirit Hollow	South of San Manuel	Conservation Easement	100
Spirit Hollow Annex	South of San Manuel	Fee Title	50
3 Links Farm	North of Benson	Conservation Easement	1,420

These properties are to be preserved and managed in perpetuity for the following purposes:

1. Protection of the federally endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*) as required by the 1996 Biological Opinion on the modified Roosevelt Dam; or,

2. Protection of riparian habitat as required by separate Clean Water Act, Section 404 permits.

The San Pedro River, one the largest undammed rivers remaining in the Southwest, supports high-quality riparian habitat with a large biodiversity of plants and animals. The San Pedro

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3	Discussions of several of these conservation efforts were included in the DEIS, Section 3.6.7, and conservation easements are identified on the Existing Land Use and Special Designations map (Figure M 10-1W). Please note that the (Subroute 4C1) alternative route transmission line crossing locations of Hot Springs and Redfield canyons are below the fish barriers constructed in each canyon, downstream from the reaches that are designated critical habitat for native fish. Both canyons could be spanned without new road crossings. The San Pedro River is no longer designated critical habitat for the Spikedace.

3 River is internationally renowned as a migratory corridor for neotropical birds. Portions of the lower San Pedro River are designated critical habitat for two federally endangered species: Southwestern Willow Flycatcher and the Spikedace (*Meda fulgida*). The lower San Pedro River supports one of the largest and most stable populations of Southwestern Willow Flycatchers range wide. In addition, the large expanses of riparian vegetation provide habitat for the Yellow-billed Cuckoo (*Coccyzus americanus*), a candidate species for Federal listing.

Since the late 1980s, The Nature Conservancy, Salt River Project, Pima County Regional Flood Control District, the Bureau of Land Management, and Reclamation have purchased (fee title) or acquired conservation easements on property along the San Pedro River with the intent of providing long-term protection for the riparian resources along the lower San Pedro River. Installation of two 500 kV transmission lines (with up to a 1,000-foot-wide corridor) have the potential to negatively impact the diverse assemblage of biological resources these agencies/organizations have sought to protect.

Site-Specific Concerns

4 1. Construction and maintenance of access roads along the transmission line corridor.

We are concerned with both the direct and indirect effects associated with access road construction. A proliferation of access roads can fragment wildlife habitat placing additional stress on local wildlife populations. Access roads could become attractive nuisances, leading to increases in unauthorized roads which further degrade habitat values for wildlife. Efforts to block roads via gates or other physical barriers are often circumvented and significant effort is required by management agencies to monitor and maintain effective barriers.

2. Transmission tower footprints.

5 The San Pedro River has been recognized by many conservation organizations as having natural heritage values of global significance. The river supports cottonwood/willow riparian forests, several rare cienegas, sacaton grasslands, and the largest remaining mesquite bosque in Arizona. The size and placement of transmission towers can affect these unique habitats. Transmission lines should span the riparian zone avoiding impacts to the streambed and associated riparian vegetation. The transmission lines should also be of sufficient height to avoid clearing vegetation underneath the powerline. Several of the alternative including the Preferred Alternative cross the San Pedro River.

3. Potential for avian collision hazards.

6 The San Pedro River has been designated as an Important Bird Area by Audubon Arizona. The river corridor is an internationally recognized neotropical migratory flyway and contributed to Reclamation's decision to focus our mitigation efforts in this area. Transmission lines spanning the San Pedro River increase the potential for avian collisions resulting in a potential degradation to the value of our mitigation properties.

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4	Comment noted
5	Each alternative crossing location on the San Pedro River was selected to attempt to avoid mature riparian woodlands, permanent water, and conservation lands identified during scoping. Spanning the entire floodplain at a height great enough to avoid or minimize the need for tree-trimming is not feasible at some crossing locations. However, the location of the BLM preferred alternative (Subroute 4C2c) river crossing is located at a narrow point in the floodplain with favorable terrain, and spanning of the entire floodplain at that location is feasible. Some vegetation management (selective trimming) may be required, but at a lower intensity than at the other alternative crossing locations.
6	The San Pedro River IBA is discussed in the DEIS, Section 3.6.8.4. Mitigation measures would be implemented to reduce the bird collision risk, at any of the river crossings. Specific design and placement of diverters and other mitigation measures will be identified in the Avian Protection Plan.

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4. Potential for the spread of invasive plants.

7 Removal of the existing ground cover can increase the potential spread of invasive plants. Linear features, such as utility corridors, can facilitate the spread of invasive plants over long distances. This impact can be minimized through prompt revegetation of the disturbed areas with native species.

5. Potential impacts to riparian habitat from increased groundwater withdrawal.

8 We are concerned about potential impacts to the groundwater resources along the San Pedro River. The transmission corridor will provide an avenue to access a previously inaccessible region. The availability of electric power could fuel potential residential development. The fragile water resources along the San Pedro River could be further depleted resulting in impacts to the riparian corridor and subsequent degradation of our mitigation properties.

Conclusions

9 The San Pedro River provides one of the best examples of an intact functioning ecosystem in the desert southwest. We believe that upon consideration of the potential impacts to the existing biological and hydrological resources, alternatives that closely parallel the San Pedro River should be eliminated. Alternatives that propose crossing the San Pedro River should be confined within existing utility rights-of-way.

We appreciate the opportunity to provide these comments. Should you have any questions regarding this matter, please contact Mr. Alexander B. Smith, Chief, Environmental Resource Management Division, at 623-773-6250.

cc: Mr. Steve Spangle, Field Supervisor, Arizona Ecological Services Field Office, U.S. Fish and Wildlife Service, 2321 West Royal Palm Road, Phoenix, Arizona 85021
Mr. David V. Modeer, General Manager, Central Arizona Water Conservation District, P.O. Box 43020, Phoenix, Arizona 85080-2333
Mr. Larry D. Voyles, Director, Arizona Game and Fish Department, 5000 West Carefree Highway, Phoenix, Arizona 85086-5000
Mr. Rafael Payan, Director, Pima County Natural Resources, Parks and Recreation, 3500 West River Road, Tucson, Arizona 85741
Mr. Patrick Graham, State Director, The Nature Conservancy, The Plaza at Squaw Peak III, 7600 North 15th Street, Suite 100, Phoenix, Arizona 85020-4330
Ms. Ruth Valencia, Salt River Project, Mail Station PAB352, P.O. Box 52025, Phoenix, Arizona 85072
Mr. Daniel Baker, Cascabel Hermitage Association, 6640 North Canyon Road, Benson, Arizona 85602

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7	Standard mitigation measures, the Noxious Weed Management Plan (Appendix B-2 of the POD), and following stipulations of the reclamation plan (within Appendix F of the POD) would reduce the risk that invasive plants will spread within the Project area.
8	Operation of the Project would not require the use of groundwater, and would not result in increased groundwater withdrawal and subsequent impacts to the riparian corridor or mitigation properties within the San Pedro River Valley. The purpose of the Project is to transmit electricity from sources in New Mexico and Arizona to the electrical grid, which is accessible to customers within a very large portion of the western United States. It is unlikely that new residential development would result as a consequence of Project operation.
9	Alternatives that would closely parallel the San Pedro River were considered and eliminated from the DEIS (as shown in Figure 2-7, pg. 2-27), including a potential alignment parallel to the existing 115 kV line located along the east side of the San Pedro River, generally between San Manuel and Benson, Arizona. The proposed transmission lines cannot be constructed within existing rights-of-way within the Project area due to safety and system design concerns; each 500 kV transmission line typically requires a width of 200 feet.

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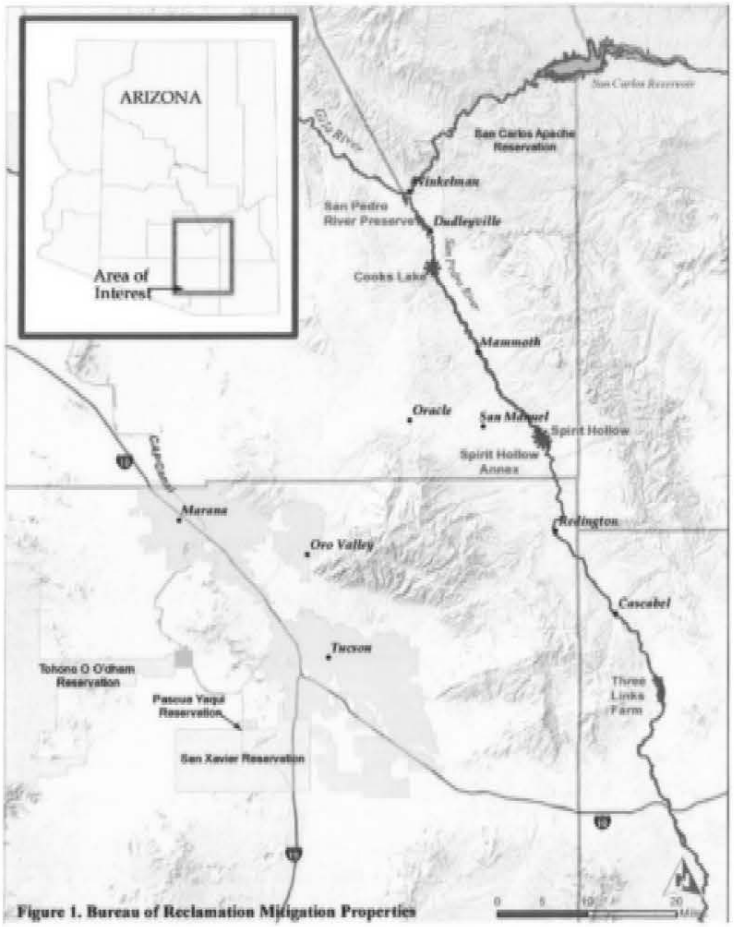

Figure 1. Bureau of Reclamation Mitigation Properties

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	See following page(s)

SunZia Southwest Transmission Project Draft EIS – August 22, 2012
Cooperating Agency Comment Record Form
Comment Date: Agency:

Comment No.			Line	Commenter	Comment
1.	Volume 1			ASLD	• ASLD is recognized by the BLM, New Mexico State Office as a cooperating agency (CA) for the purpose of preparing an EIS for the proposed SunZia Southwest Transmission Project. • Per the Memorandum of Understanding (MOU) between the BLM and ASLD and the Arizona State Game and Fish Department, ASLD has: o jurisdiction by law with regard to surface and mineral management responsibilities on lands administered and currently under the jurisdiction of the ASLD. Jurisdiction by law means agency authority to approve, veto, or finance all or part of the proposal (40 CFR 1508.15). o special expertise with regard to surface and mineral management responsibilities on lands administered and currently under jurisdiction of the ASLD. Special expertise means statutory responsibility, agency mission, or related program experience (40 CFR 1508.26).
2.	Volume 1			ASLD	• Scoping comments potentially related to Arizona State Trust land and beneficiaries were analyze to determine if the comments were addressed in the DEIS. The Scoping Report comments are compiled in Attachment 1 to this letter and the DEIS response is noted. Generally speaking, the: o DEIS does not provide an evaluation of impacts by jurisdiction, including impacts to Arizona State Trust land o DEIS does not provide detailed information on the location of new and expanded access roads and affected jurisdiction to evaluate the level of impact to ranchers and other trust beneficiaries. o Developments associated with Arizona State Trust land that are mentioned in the scoping comments are not specifically noted in the DEIS. o No projects are identified as connected actions in the DEIS as requested in scoping comment from Appendix L
3.	Volume 1			ASLD	• Comments provided by ASLD on the ADEIS were analyzed to determine if these comments were responded to in the DEIS. The ASLD comments are compiled in Attachment 2 to this letter. Generally speaking: o The specific locations of project features are generally not provided in the DEIS, nor are the land jurisdictions identified. As such, the potential for creation of remnant parcels on Arizona State Trust land cannot be determined. The DEIS does not discuss remnant parcels as an issue of concern.
4.	Volume 1			ASLD	• Comments provided by ASLD on the ADEIS were analyzed to determine if these comments were responded to in the DEIS. The ASLD comments are compiled in Attachment 2 to this letter. Generally speaking: o A7 Ranch is described in Chapter 3 as "a working ranch under a grazing lease from the ASLD that supports a variety of native wildlife…."
5.	Volume 1			ASLD	• Comments provided by ASLD on the ADEIS were analyzed to determine if these comments were responded to in the DEIS. The ASLD comments are compiled in Attachment 2 to this letter. Generally speaking: o The location of new and expanded access roads are not specified in the DEIS and so it is impossible to evaluate the site-specific impacts on resources and whether slopes would exceed 35 percent. Potential access roads are not identified by land jurisdiction.
6.	Volume 1			ASLD	• Comments provided by ASLD on the ADEIS were analyzed to determine if these comments were responded to in the DEIS. The ASLD comments are compiled in Attachment 2 to this letter. Generally speaking: o No connected actions are identified in the DEIS. A number of generation and transmission projects are discussed under cumulative effects that have potential to be connected actions under NEPA. Their land jurisdictions are also not provided.
7.	Volume 1			ASLD	• Comments provided by ASLD on the ADEIS were analyzed to determine if these comments were responded

2396	Response to Comment
1	Comment noted
2	Impacts are evaluated by resource for each subroute and local alternative regardless of jurisdiction. The DEIS was supplemented to include a description of planned land uses and impacts to future land use with regard to ASLD conceptual plans for Rincon Valley Posta Quemada, and Mammoth conceptual plans provided in September in 2012. Specific project design and engineering has not been completed, and specific locations of access roads are unknown at this time. Planned area developments were identified through a plat search in affected counties to identify foreseeable developments for the DEIS. Connected actions were identified for the Project, which included the proposed substations, communication facilities, and other facilities described in the Project description. Other proposed projects, that are not connected actions which could be implemented in the future have been identified as "future or reasonably foreseeable future actions" in Section 4.17.3.2, and evaluated in Section 4.17.4 Cumulative Effects by Resource.
3	Typical locations of Project features are illustrated in the Project description (DEIS, Figure 2-9 and 2-3). Specific locations of project features will be determined based on design and engineering to be completed when right-of-way (ROW) is granted. Although the location of specific remnant parcels cannot be determined until engineering and surveys have been completed, transmission line routes have been sited at this stage to minimize the potential for bisecting parcels. Siting opportunities identified in the evaluation of opportunities and constraints included existing or planned linear facilities, roads, railroads, canals, and section lines (DEIS Section 2.2.2.1, pg. 2-3).
4	Comment noted

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5	Although project design and engineering has not been completed, and specific locations of access roads are unknown at this time, the amount of ground disturbance that could occur was estimated for purposes of impact analysis according to terrain constraints. The estimated amount of potential ground disturbance resulting from new access has been calculated using a consistent method for all alternative transmission line corridors included in the DEIS analysis. As stated in Section 2.4.10.1 (Table 2-7, p. 2-73), the assessment of access levels was primarily based on the evaluation of existing conditions (i.e., distance from existing roads, road conditions) and terrain (slope). The greatest level of impact caused by potential ground disturbance for access road construction was attributed to areas where slopes exceed 35 percent. Figures 6-1W, 6-2W, and 6-3W (DEIS Map Volume) illustrate the estimated ground disturbance, as shown in the impact level tables in the DEIS, Appendix H – Impact Levels.
6	See response to comment No. 2.
7	See response to comment No. 2.

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Comment No.			Line	Commenter	Comment
					to in the DEIS. The ASLD comments are compiled in Attachment 2 to this letter. Generally speaking: ○ ASLD conceptual plans are not identified in the DEIS.
8.	Volume 1			ASLD	• Comments provided by ASLD on the ADEIS were analyzed to determine if these comments were responded to in the DEIS. The ASLD comments are compiled in Attachment 2 to this letter. Generally speaking: ○ The exact number and location of regeneration sites is not provided in the DEIS, nor are the land jurisdictions identified.
9.	3.10.3			ASLD	• Comments provided by ASLD on the ADEIS were analyzed to determine if these comments were responded to in the DEIS. The ASLD comments are compiled in Attachment 2 to this letter. Generally speaking: ○ The ASLD right-of-entry permits are included in Table 1-5, but permits and restrictions associated with recreational use of State Trust land merit more discussion in Chapter 3, 3.10.3, Existing Land Use and Recreation.
10.	2.4			ASLD	• Comments provided by ASLD on the ADEIS were analyzed to determine if these comments were responded to in the DEIS. The ASLD comments are compiled in Attachment 2 to this letter. Generally speaking: ○ Chapter 2 identifies seven typical 500 kV transmission structures that "could be used for the proposed Project." The DEIS does not evaluate how the structure types vary in their resource impacts.
11.	1.4	1-8	Table 1-2	ASLD	Some of the generation (and transmission) projects may be connected actions while others may be evaluated in this EIS as indirect and cumulative impacts. More information is needed to determine the appropriate NEPA framework for analysis and the rationale should be documented. Per 40 CFR 1508.25(a)(1), projects are considered "connected actions" under NEPA that (i) Automatically trigger other actions which may require environmental impact statements; (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously; (iii) Are interdependent parts of a larger action and depend on the larger action for their justification. (See for example the Sunrise Powerlink Project FEIS (CPUC and BLM 2008).)
12.	1.5	1-9		ASLD	Recommend distinguishing scoping issues that were identified by agencies and tribes from those that were identified by the public. The scoping summary table seems somewhat cursory given the geographic scope and complexity of the proposed project, and the level of public interest.
13.	1.6	1-11		ASLD	As discussed, cooperating agencies may have jurisdiction by law and/or special expertise. The text does not say which of these criteria apply to the cooperating agencies listed. The information is relevant in that the cooperating agency eligibility status defines the role, responsibility, and authority of the agency in the EIS process.
14.	1.8	1-12		ASLD	While the BLM is the federal lead agency for authorizing this project, the Arizona (Arizona Corporation Commission - ACC) and New Mexico state licensing processes and the state trust right-of-way processes are also "major authorizing laws and regulations" given the amount of non-federal land affected by the proposed SunZia project, and the fact that state approval is also required for the proposal to proceed. The state licensing and state trust ROW processes should be described in this and it should be pointed out that they are separate decision-making processes.
15.	1.9	1-13		ASLD	There is no mention of existing non-federal land use plans that apply to land included in the proposed project area. Applicable non-federal plans should also be disclosed given that the proposed project crosses a substantial amount of non-federal land. The NEPA process is designed to evaluate the whole of the project, not just the portions of the project that fall on federal land.
16.	1.10	1-15		ASLD	The "Decisions to be Made" can be incorporated into the BLM's Purpose and Need Statement. 1.10.1 Includes BLM's purpose as well as decision. The ACC and ASLD also have important decisions to make that are relevant to

2396	Response to Comment
8	Specific project design and engineering has not been completed, and specific locations of regeneration sites are unknown at this time.
9	A discussion of permits required for dispersed recreational use would be inappropriate in Chapter 3, as the discussion is a general discussion of available recreation activities in the study corridor, not specific access guidelines.
10	General design characteristics with regard to relative size of footprint, structure composition (i.e., lattice or tubular) and heights that explain differences between the structures are indicated in Section 2.4.2. Impacts for resources based on structure type are site specific, and specific project design and engineering has not been completed. In most locations assumptions have been applied for estimating impacts based on the most likely type of structure that would be used. For example, the analysis of visual impacts resulting from the application of Selective Mitigation SE-7 (modified tower design or alternate tower type, Table 2-11, pg. 2-92) has been reported in Chapter 4, Section 4.9.3.
11	Table 1-2 indicates interconnection requests to existing transmission owners within the Project Area. Although some of the future generation projects identified could interconnect with the Project, no interconnection requests have been received. Connected actions were identified for the Project, which included the proposed substations, communication facilities, and other facilities described in the Project description. Other proposed projects, that are not connected actions which could be implemented in the future have been identified as "future or reasonably foreseeable future actions" in Section 4.17.3.2, and evaluated in Section 4.17.4 Cumulative Effects by Resource.
12	Table 1-3 Summary of Issues from Scoping is general scoping concerns per resource. A complete summary of issues identified during scoping is incorporated by reference, and publicly available.
13	Table 1-3 Summary of Issues from Scoping is general scoping concerns per resource. A complete summary of issues identified during scoping is incorporated by reference, and publicly available.

2396	Response to Comment
14	Cooperating agencies with jurisdiction are identified in Section 1.10 Decisions to be Made, and Section 1.12 Permits, Licenses, and other Entitlements.
15	Federal and state permits and licenses are listed in Table 1-5 of the DEIS
16	Non-federal plans reviewed as part of the project are listed in Section 10.3.4.

SunZia Southwest Transmission Project Draft EIS – August 22, 2012
Cooperating Agency Comment Record Form
Comment Date: Agency:

Comment No.			Line	Commenter	Comment
					the project and warrant discussion here.
17.	2.2.2.2	2-4		ASLD	The text and Table 2-1 concerning siting constraints does not appear to have considered present and future use of the various Arizona State Trust land beneficiaries.
18.	2.3.2	2-10, 2-13	Table 2-2	ASLD	The total length for each sub route is provided, but not by jurisdiction. Text descriptions and tables pertaining to alternatives are also missing details on land jurisdiction.
19.	2.4	2-45		ASLD	There is a general description of the content of a Plan of Development (POD), but opportunities for public review of the POD are not noted. For transparency, the POD and appendices should be made available as part of the NEPA process to provide details about the project (beyond what is contained in Chapter 2) to those who are interested.
20.	2.4.7	2-58		ASLD	Locations, jurisdictions, and descriptions of fiber optic generation stations are not fully disclosed in Chapter 2.
21.	2.4.9.1	2-68		ASLD	Access road locations, specifications, and jurisdictions should be disclosed in the EIS and evaluated per NEPA.
22.	2.4.10.2	2-73		ASLD	Location of construction yards and concrete batch plants are not specified, nor is jurisdiction noted
23.	2.4.10.4	2-74		ASLD	The text says that the BLM would be notified in advance of any required blasting but there is no mention of notifying other jurisdictions that might be affected.
24.	2.4.10.5	2-75		ASLD	The location of helicopter fly yards is not disclosed. Impacts to resources, including cultural resources can also result from temporary use of land by helicopters.
25.	2.4.11.2	2-83		ASLD	The text does not mention whether a fire plan is being prepared as part of the POD.
26.	2.4.12	2-84		ASLD	If the Applicant has committed to both "standard mitigation measures" and "selective mitigation measures" then both are considered to be project "design features" as described in the BLM NEPA Handbook (6.5.1.1). As such, they are part of the project description and should be described in Chapter 2. If the Applicant has not committed to the "selective mitigation measures," these measures do not belong in Chapter 2. Instead, they should be discussed as part of the environmental consequences of the NEPA document to address residual impacts that remain after design features are incorporated into the proposed action. BLM proposed mitigation measures intended to address residual impacts belong in Chapter 4
27.	2.5	2-84		ASLD	The comparison of alternatives is very confusing as currently written as there is information about environmental consequences mixed in with information pertaining to the project description. Text pertaining to the comparative analysis of the various alternatives belongs in the Environmental Consequences of the NEPA document, not in Chapter 2
28.	2.5	2-84		ASLD	When specific geographic or resource features are mentioned as part of the route alternative descriptions, the applicable land jurisdiction tied to the feature is seldom provided which makes it very difficult to assess impacts to Arizona State Trust land.
29.	2.4.12	2-92	Table 2-11	ASLD	It is not clear whether the Applicant has committed to implementing both standard mitigation measures as well as selective mitigation measures (Table 2-11) as part of the project. If yes, then they are also "design features" per the BLM NEPA Handbook. If not, selective mitigation measures belong in Chapter 4.
30.	2.5.2	2-99		ASLD	Sub route 3A1 mileage is given for state land (57.8), but does not specify how much of the route applies to New Mexico state trust land v. Arizona state trust land.
31.	2.6	2-104		ASLD	The text describes three BLM plan alternatives, but their status as NEPA alternatives is somewhat confusing as presented without headers to clearly delineate each. The "affected RMP" is not named. It appears that there are two alternatives, but that is not clear. It is also confusing to overlay "BLM preferred alternative" when the term has already been used to describe a route alternative that does specify the need for a plan amendment.
32.	Chapter 2	2-107	Table 2-12	ASLD	It is not clear whether the state land jurisdiction applies to New Mexico or Arizona. Neither county nor tribal jurisdictions are shown.

2396	Response to Comment
17	Specific siting constraints associated with ASLD beneficiaries were not identified due to a lack of specific ASLD land development plans on state land crossed by SunZia alternative routes.
18	Table 2-12 of the FEIS has been modified to include Arizona state land jurisdiction by subroute.
19	The Draft Preliminary Plan of Development is available for review on the BLM SunZia website.
20	Specific project design and engineering has not been completed, and the specific locations of fiber optic generation stations are unknown at this time.
21	Specific project design and engineering has not been completed, and the specific locations of access roads are unknown at this time.
22	Specific project design and engineering has not been completed, and the location of construction yards and concrete batch plants is unknown at this time.
23	The Final POD will include blasting notification requirements.
24	Location of helicopter yards will be included in the Final POD, and cultural resource clearance will be required for those areas.
25	Text has been modified in Section 2.4.11.2 of the FEIS as follows: "Emergencies are any events requiring immediate response to a condition and may include fires, car-to-pole contacts, downed poles, transformer outages, and/or outages due to downed wire as a result of extreme weather. All applicable fire laws and regulations, including BLM fire safety standards, would be observed during the operations period. *A Fire Protection Plan would be provided in the Final POD.* If extreme…"
26	The applicant would commit to both standard and selective mitigation measures included in Chapter 2 of the DEIS. Residual impacts, which are the impacts that would result after mitigation measures are applied, are described in Chapter 4 of the DEIS.

2396	Response to Comment
27	According to the BLM format for the EIS, Chapter 2 includes the Project description and comparison of alternatives. The detailed description of environmental consequences for each of the alternatives is provided in Chapter 4.
28	Comment noted
29	See response to Comment No. 26.
30	See response to Comment No. 18.
31	Text modified in Section 2.6 of the FEIS to clarify affected RMPs as follows: "The BLM's preferred *plan amendment* alternative is the 400-foot-wide corridor that may be included as an amendment to RMPs in New Mexico and Arizona for conformance with VRM and right-of-way management objectives, including the following: • Socorro RMP, Socorro Field Office (2010) • Mimbres RMP, Las Cruces District Office (1993) • Final Safford District RMP and EIS, Safford District Office (1991) The BLM Preferred Alternative route would include plan amendments within the Socorro Field Office and the Las Cruces District Office. Amendments to the RMPs in Arizona would not be required for the BLM Preferred Alternative route. Right-of-way…"
32	See response to Comment No. 18.

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33.	Chapter 2	s 2-108, 2-111, 2-113	Table 2-13, Table 2-14, Table 2-15	ASLD	Tables 2-13, 2-14, and 2-15 Resource Comparison Summary, are better suited for inclusion in the Environmental Consequences chapter of the EIS.
34.	Chapter 2	s 2-110, 2-112, 2-117		ASLD	Cultural impacts in Tables 2-13, 2-14, and 2-15 should be explained clearly: physical impact from construction, visual impact from towers, potential impacts from construction of access road resulting in vehicular damage, etc. If a field survey did not relocate a trail, and there would be no impact, state "no impact".
35.	Chapter 3			ASLD	• As the DEIS is currently written, it is virtually impossible for a reader (and decision-maker) not intimately familiar with the landscape and jurisdictional boundaries to identify impacts specific to Arizona State Trust land and Trust beneficiaries. An estimated 118 miles (26 percent) of the 460-mile BLM Preferred Alternative would cross Arizona State Trust land but the document has few references to ASLD, Arizona State Trust land, or Trust beneficiaries. The document could be substantially improved by providing quantified information and analysis in text and tables about how the resources discussed in the Affected Environment align with state (versus federal, local, and tribal jurisdiction). • Recommend including sub route numbers in all tables and highlighting the BLM Preferred Alternative. This information is missing from many of the tables.
36.	3.2.1 and 3.2.5	s 3-2 and 3-12		ASLD	DOI Secretary Order 3289, Sec.3 (a), Climate Change Response Planning Requirements, instructs each bureau and office of DOI to "consider and analyze potential climate change impacts when...making major decisions regarding potential use of resources under the Department's purview." The Council on Environmental Quality (CEQ) has issued Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. Climate change issues arise in relation to the consideration of: 1) The GHG emissions effects of a proposed action and alternative actions; and 2) The relationship of climate change effects to a proposed action or alternatives, including the relationship to proposal design, environmental impacts, mitigation and adaptation measures. Although the CEQ Guidance has not been finalized, climate change is being analyzed as part of NEPA and this document provides a useful framework for analysis. Note that the analysis should also evaluate not only how the project would contribute to climate change, but how climate change (including increased risk of wild fire, drought, energy demand etc.) would potentially impact the project and resources.
37.	3.2.1.3	3-6		ASLD	A definition of a Class I area is needed and a discussion of what that means. Also suggest explaining that there are 21 Class I sites combined between Arizona and New Mexico
38.	3.2.1.3	3-6		ASLD	Sentence should be revised to read: "Haze is caused by fine particles and their precursors in the air that are so small they settle out only very slowly."
39.	3.2.1.3	3-6		ASLD	There is no mention of the Western Regional Air Partnership (WRAP) for EPA's regional haze regulations. Some description is needed to meet applicable regulatory language.
40.	3.2.3.1	3-9		ASLD	Drought in the region is described in the past tense. The Western Governors' Association released a report in July 2012 that provides a more recent update of drought and other climate conditions.
41.	3.2.3.2	3-9		ASLD	Sentence should read: "High temperatures are common throughout the summer months at the lower elevations, with extreme temperatures recorded exceeding 125 degrees Fahrenheit in the desert areas." Please elaborate on, and cite, where this extreme temperature was recorded and when. Was this record near the project site, and how does it impact the project construction or operation phases? Would a High Temperature Mean Value and a Low Temperature Mean Value for the project area be more project specific?

2396	Response to Comment
33	See response to Comment No. 27.
34	Comment noted. The purpose of Table 2-13 through 2-15 is to provide a summary of resource impacts for comparison between alternative routes. Descriptions of types of impact and the results of the impact analysis are included in the discussion of environmental consequences in Chapter 4.
35	See response to Comment No. 18.
36	Comment noted
37	Text revised to Section 3.2.1.3 in the FEIS as follows: "Sensitive areas, such as certain national parks and wilderness, have been designated under the federal Clean Air Act as Class I areas. *Class I areas are areas of special national or regional natural, scenic, recreational, or historic value for which federal regulations provide special protection with respect to air quality degradation. There are a total of 21 Class I areas in New Mexico and Arizona."*
38	Text revised to Section 3.2.1.3 in the FEIS as follows: "Regional haze reduces long-range visibility over a wide region. Haze is caused by fine particles *and their precursors* in the air that are so small they settle out only very slowly. In 1999…"
39	Text revised to Section 3.2.1.3 in the FEIS as follows: "The national goal is to restore natural visibility conditions in Class I areas by the year 2064. The Western Regional Air Partnership (WRAP) is a voluntary partnership of states, tribes, federal land managers, local air agencies, and EPA that was originally chartered to develop the technical and policy tools needed by western states, including Arizona and New Mexico, and tribes to comply with EPA's regional haze regulations. The organization was re-chartered in 2009. The new charter shifts the emphasis from policy work to technical work. It also shifts the focus from regional haze to a broader one-atmosphere, multi-pollutant approach to western air quality issues."

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40	Text revised to Section 3.2.3.1 in the FEIS as follows: "This most recent drought was characterized by warmer temperatures than the 1950s drought, which resulted in widespread mortality to certain types of vegetation (such as piñons) and numerous wildfires (Owen 2008; Guido 2010). As of July 2012, over 75 percent of the contiguous United States was suffering from some degree of drought or abnormally dry conditions. In New Mexico, much of the southeast quarter of the state was experiencing extreme drought conditions, with most of the project area in severe to moderate drought (WGA 2012). Monsoon rains eased the drought situation somewhat during the latter part of the summer and the National Weather Service's (NWS's) projected outlook expected drought conditions to continue through the fall, with above normal precipitation for the winter 2012-2013season www.srh.noaa.gov/productview.php?pil=DGTEPZ, accessed 9/27/2012)." Text revised to Section 3.2.3.2 in the FEIS as follows: "Due to high temperatures, dryness of the air, and a high percentage of possible sunshine (86 to 92 percent average), evaporation rates in Arizona are high (*ibid*). Like New Mexico, Arizona has experienced significant recent drought conditions. As of July 2012, extreme drought affected the northeast and southwest corners of the state, while the area traversed by Project route groups was in severe drought. Monsoon rains eased conditions somewhat during the latter portions of the summer (WGA 2012), with 2012 monsoon rainfall totals generally above normal. The NWS outlook projects a greater chance of above normal precipitation from September through November 2012 (www.srh.noaa.gov/productview.php?pil=DGTTWC."
41	Text revised to Section 3.2.3.2 in the FEIS as follows: "High temperatures are common throughout the summer months at the lower elevations, with temperatures well above 100 degrees Fahrenheit in the desert areas. Extremes occur between day and night temperatures; at times with a 50 to 60 degree Fahrenheit difference between minimum and maximum daily temperatures during the drier months. Lower desert valleys sometimes have several years in succession without freezes (WRCC 2011b)." Project specific climate data are shown in Tables 3-2 and 3-4.

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42.	3.2.3.2	3-10		ASLD	The text discusses heavy thunderstorms during July and August, but no discussion of the Monsoon Season (May - September) and the extreme dust storms associated with the high particulate matter (PM 2.5 and PM10) or how these local conditions may affect the proposed project.
43.	3.2.4.2	3-12		ASLD	The discussion should also mention that EPA has designated the western portion of Pinal County as "Nonattainment" for PM-10 as of May 22, 2012 for the 24-hour PM-10 NAAQS. With a new boundary that will include portions of the project including the Pinal Central Substation.
44.	Table 3-6	3-17		ASLD	The Pinal County Cowtown Monitor for PM-2.5 (CWTN) data should be included as it is one of the worst monitors in the United States (No. 2 ranked). This monitor had 23 exceedances in 2009 and data from 2010 and 2011 are similar, yet trending in a decline in exceedances. Pinal County Housing PM-10 Monitor (PCH) data should also be included as this monitor is located within very close proximity to the Pinal Central Substation of the proposed project.
45.		3-72		ASLD	The DEIS says that "All categories of ADA-listed plants require a permit from the agency, and all but Harvest Restricted plants require tags and seals prior to moving any protected plants". - Per AAC-Article 11, R3-3-1107, "D. Any person moving protected native plants shall obtain the following seals from the Department and securely attach the appropriate seal to each protected native plant: 1. Protected native plant seals identify protected native plants, except saguaro cacti, that will be moved from locations that are not the original growing sites. 2. Imported seals identify all imported protected native plants." We suggest striking the second part of the sentence that incorrectly states, "...and all but Harvest Restricted plants require tags and seals prior to moving any protected plants."
46.		3-83	Table 3-30	ASLD	Spikedace and loach minnow are listed endangered as of March 26, 2012.
47.	3.6.7.7	3-105		ASLD	Need an update on the critical habitat description for loach minnow and spikedace per the Feb 23, 2012, final rule designating critical habitat for these two species.
48.	3.7.1.3	3-131		ASLD	There are counties in the project area that have developed community wildfire protection plans. These should also be mentioned and discussed.
49.	3.7.3.2	3-134		ASLD	Fires from the 2012 fire season should also be mentioned if they occurred within the project area.
50.	General comment, Chapters 3 and 4			ASLD	There is no discussion of age of previous surveys--AZ SHPO Guidance Point No. 5 (dated 4/20/2004) recommends that archaeological surveys older than 10 years in age be evaluated for adequacy "...such as the survey transect interval or width as it applies to the definition of a 100-percent, intensive survey, or the definition of what constitutes an archaeological site." Cultural resources that previously were not considered "sites" now may be, under the revised (1995) ASM site definition. In addition, sites that were not historic (older than 50 years) in the 1970s and 1980s may be historic today. Thus, the site density could be quite a bit higher than what is projected.
51.	3.9.1.2	3-177		ASLD	• The existing conditions appear to have been based on existing VRI data. Please clarify whether the VRI data covered all lands within the project area, including state lands. Also, please explain whether or not there was also a project-level analysis of existing conditions throughout the project corridors, and the methodology and results of that analysis. • Sufficient information is missing that explains the basis for the concern levels. As currently described, they are written as broad generalizations with no basis in fact.
52.	3.9.3.2	3-195		ASLD	It appears that only five KOPs were used for the 140.3 miles of Sub route 3A1. In contrast, Sub route 4C2c is 161.1 miles in length and includes 16 KOPs. Rationale should be provided to justify the very small number of KOPs.
53.	3.10.1.1	3-214		ASLD	Concern about impacts to ranching and livestock grazing were also mentioned during the scoping process but are not listed in the Introduction. They are discussed in the Scoping Report and in Appendix L to that report.
54.	3.10.1.2	3-215		ASLD	ASLD also has land use plans that are relevant to the project area but are not listed or discussed: the Rincon Valley Conceptual Plan, the Mammoth Conceptual Plan, the Houghton Road Corridor Urban Planning Permit, and

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42	Text revised to Section 3.2.3.1 in the FEIS as follows: "Average annual precipitation ranges from less than 10 inches over much of the southern desert and the Rio Grande and San Juan valleys, to more than 20 inches at higher elevations; and varies widely from year to year. Summer rains fall almost entirely during brief, often intense thunderstorms. *New Mexico (as well as Arizona) is at the northern fringe of the area affected by the Southwest Monsoon, also known as the North American Monsoon. The monsoon season, characterized by a shift in winds from a southwesterly to a more southeasterly direction, brings a rapid increase in rain in June to southern Mexico, migrating to the southwestern United States in early July, The monsoon season typically ends around mid-September in New Mexico. New Mexico receives 30 to 50 percent of its yearly precipitation between July and September.* Winter is the driest season…" Text revised to Section 3.2.3.2 in the FEIS as follows: "High winds accompanying heavy thunderstorms during July and August sometimes reach peak gusts of approximately 100 mph in local areas (*ibid*). *Such winds can cause blinding dust storms in dry or drought-stricken areas."*
43	Text revised to Section 3.2.4.2 in the FEIS as follows: "In 2009, the EPA designated the western portion of Pinal County as a nonattainment area for $PM_{2.5}$. Pinal County and the ADEQ subsequently submitted recommendations regarding the boundaries for the nonattainment area, and the EPA finalized designation of a portion of western Pinal County as nonattainment for PM2.5 in February 2011 (ADEQ 2011a). *Both the Pinal Central Substation and Route Group 4 would be located approximately 19 miles or more to the east of the western Pinal County PM2.5 nonattainment area."* In May 2012, EPA designated much of the western half of Pinal County to nonattainment for the 1987 24-hour PM10 NAAQS (EPA 2012). Ambient monitors located within this area routinely record concentrations two to three times the level of the standard. A small portion of Route Group 4 and the Pinal Central Substation are located within the new nonattainment area. For more information regarding Arizona's nonattainment and maintenance areas, see the ADEQ website.

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44	Text revised in Table 3-6 Section 3.2.6.2 in the FEIS as follows:

			Annual	—	—	14.7 µg/m³
Casa Grande Downtown (Pinal County)	2010	PM_{10}	24-hour	136 µg/m³	101 µg/m³	--
			Annual	—	—	39.4 µg/m³
Pinal County Housing Complex (Pinal County)	*2010*	*PM_{10}*	*24-hour*	*128/130/1761 µg/m³[a]*	*102/111/182 µg/m³[a]*	—
			Annual	—	—	*42.7/43.7/57.7 µg/m³[a]*
Cowtown Road (Pinal County)	*2010*	*$PM_{2.5}$*	*24-hour*	*39.5 µg/m³*	*27.1 µg/m³*	—
			Annual	—	—	*12.3 µg/m³*
Douglas Red Cross (Cochise County)	2010	$PM_{2.5}$	24-hour	13.0 µg/m³	9.6 µg/m³	—
			Annual	—	—	6.3 µg/m³
22nd and Craycroft (Tucson, Pima County)	2010	CO	1-hour	2.0 ppm	—	—
			8-hour	1.1 ppm	0.9 ppm	—

[a] Three monitors at this location
Source: EPA 2011c

45	Text regarding plant seals revised in Section 3.6.1 the FEIS as follows: "*The* Arizona Native Plant Law (ARS § 3-901-907) is administered by the Arizona Department of Agriculture (ADA), and lists plants protected under the law. The ADA defines four categories of protected native plants: Highly Safeguarded, Salvage Restricted, Salvage Assessed, and Harvest Restricted. The Highly Safeguarded category is the highest category of protection provided for native plants in Arizona, and includes all species that are candidates for ESA listing. "Permits applicable to highly safeguarded native plants may be issued only for collection for scientific purposes or for the noncommercial salvage of highly safeguarded native plants whose existence is threatened by intended destruction, or by their location or by a change in land usage, and if the permit may enhance the survival of the affected species" (ARS 3-906 C). The remaining three categories allow plants to be moved or harvested, provided that ADA regulations are complied with. *ADA jurisdiction over protected plants includes all lands within the state, but since native plants occurring on private land are the property of the landowner, their removal requires only that the ADA be notified prior to their removal. Movement of all ADA-listed plants must be conducted under permit, with tags and seals affixed to all plants prior to transport. The Arizona State Land Department requires compensation for the loss to development of any individual ADA-listed plants on Arizona State Trust Land, and requires a compensation fee per acre for native vegetation, including all plants not ADA-listed."*
46	Spikedace and Loach Minnow are included in the FEIS as listed endangered in Table 3-30.
47	The text has been revised in the FEIS to reflect the 2012 critical habitat rule. 3.6.7.7 "Aravaipa Wilderness The Aravaipa Wilderness contains 19,410 acres of BLM-administered land located approximately 12 miles northeast of Mammoth, Arizona. Aravaipa Creek supports seven native fishes, including the endangered Loach Minnow (*Tiaroga cobitis*) and Spikedace (*Meda fulgida*), and is considered the best remaining native fish habitat in Arizona (BLM 2009b). Aravaipa Creek downstream of Stowe Gulch is designated critical habitat for the Loach Minnow and Spikedace. *Critical habitat for the Spikedace and Loach Minnow ends at the Aravaipa-San Pedro River confluence* (USFWS 2007b)."
48	Local or county fire plans have been reviewed and referenced as appropriate, in Section 3.7.1.
49	Sections 3.7 and 4.7 have been updated in the FEIS with reference to the 2012 fire season.
50	Discussion of age of surveys and sites has been added to Chapter 3 in the FEIS.
51	The VRI data does not assess existing conditions/cultural modifications at a project specific scale. Some information is available within the VRI dataset but may be outdated and/or is lacking sufficient detail to determine project impacts. Existing conditions were identified for the entire project study area (regardless of jurisdiction) and were field verified.
52	Per BLM Handbook H-8431-1, several KOPs for linear projects such as power lines should be rated from several viewpoints representing: • Most critical viewpoints, e.g., views from communities, road crossings • Typical views encountered in representative landscapes, if not covered by critical viewpoints • Any special project or landscape features such as skyline crossings, river crossings, substations, etc. The handbook also outlines 10 factors that should be considered during the selection of KOPs. In addition to these factors, input from BLM VRM specialists for each FO was solicited. Generally, the selected KOPs represent a range of representative impacts to different types of viewers (residences, travel routes, recreation) as well as varied viewing conditions, distances, and cultural modifications.

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53	Text has been added to the introduction in Section 3.10.1.1 in the FEIS – as follows: "Based on results of the public scoping process and in consultation with the BLM, the following areas of concern were identified with regards to land use: • BLM RMP right-of-way exclusion and avoidance areas • Maximize use of existing utility corridors • Right-of-way conflicts with existing residential areas, irrigated farmland, and commercial/industrial areas • Recreation uses, including OHV areas • Military testing and training operations • Pima County conservation lands • TNC allotments/easements • Muleshoe Ranch CMA, Swamp Springs-Hot Springs Watershed ACEC • Winkelman and Redington NRCDs plans restrict new utilities within the San Pedro River and Aravaipa Creek watersheds • Ranching and livestock grazing"
54	Text was added to the FEIS Section 3.10.1.2, which includes a description of planned land uses and impacts to future land use with regard to ASLD conceptual plans for Rincon Valley Posta Quemada, and Mammoth conceptual plans provided in September in 2012.

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					the Red Rock Conceptual Plan.
55.	3.10.3.2	3-224		ASLD	There is no mention of ASLD's objective for managing state trust lands for agriculture and grazing.
56.	3.10.3.3	3-224		ASLD	ASLD ADEIS Comment 4 is relevant to this discussion: "Arizona State Trust Lands leased for agriculture, mining, commercial, or military purposes are not open to recreational use. Other Trust Lands may be closed to some or all recreational uses due to hazardous conditions, dust abatement, in coordination with the Arizona Game & Fish Department or based on certain State, County or Local laws or ordinances."
57.	3.10.4	3-231		ASLD	ASLD ADEIS Comment 8 is relevant to this discussion: "Please update the Planned Land Use to reflect the Department's Mammoth, Arroyo Grande, Rincon Posta Que Mada, Marana and Houghton Road Corridor Conceptual Plans (maps to be emailed sedately). Please refer to ARS 37-331.03 for information on conceptual planning."
58.	3.10.5	3-231		ASLD	Because this addresses land use, it is relevant to incorporate quantitative and qualitative information about land use jurisdiction in reference to descriptions about the various sub routes. Information about the existing ASLD leases and BLM ROW grants for each sub route would also be relevant. They could be provided in an appendix and summarized in the document.
59.	3.10.5.7	3-246		ASLD	There are a number of reasonably foreseeable future energy facilities listed in Table 4-30 (Cumulative Impacts) that have potential to be NEPA connected actions. None have been identified as such in the DEIS but the rationale for dismissing them is not clearly stated. If any of these projects were identified as connected actions, they would need to be described in Chapter 2, described as part of the affected environment, and evaluated for environmental consequences in Chapter 4. Table 4-30 does not identify whether any of the identified reasonably foreseeable future actions fall on Arizona State Trust land.
60.		3-279	Table 3-58	ASLD	Arizona county population growth estimates based on data that predates (2006) the recession are highly questionable and do not justify the conclusion that "significant growth can be expected over the coming years." More recent data sets are warranted to make credible population projections.
61.	3.13	3-271		ASLD	The entire Social and Economic Conditions should reflect current census data, versus pre-recession data.
62.	3.15.3	3-308		ASLD	The proposed project would result in audible noise from construction (blasting, helicopters, construction equipment etc.) which should be discussed in Chapter 4. The identification of sensitive noise receptors (residences, hospitals, schools, parks etc.) is missing from the Health and Safety discussion in this chapter.
63.	Chapter 4				The same general comments described for Chapter 3 also apply to Chapter 4; as the DEIS is currently written, it is very difficult to identify impacts associated with Arizona State Trust land without intimate knowledge of the landscape and jurisdictional boundaries. When providing an assessment of impacts on resources, it would be very helpful to identify affected jurisdiction in text and in tables. This information should also be provided in the Summary of BLM Preferred Alternative listed under each resource.
64.	4.1.1.1	4-3		ASLD	Some maintenance activities also have potential for impact and should be identified.
65.		4-3	Table 4-1	ASLD	Because all project features (including access roads, regeneration stations etc.) have not been fully described and their specifications provided in Chapter 2, it is impossible to verify the ground disturbance estimates in Table 4-1
66.	4.1.1.3	4-4		ASLD	As noted above, the discussion of mitigation measures is confusing. Do both standard and selective mitigation measures equate to design features as described in the BLM NEPA Handbook? Has the Applicant committed to both as part of the project? Would additional mitigation measures be required by the BLM and other agencies to address residual impacts?
67.	Chapter 4				• Details in the POD that remain unfinalized until just prior to the issuance of the Record of Decision will not be disclosed in the NEPA process. • Distinctions between direct versus indirect impacts and short-term versus long-term impacts are not

2396	Response to Comment
55	Text has been added to Section 3.10.3.2 of the FEIS under grazing.
56	Text has been added to Section 3.10.3.3 of the FEIS in the recreation section.
57	See response to Comment No. 54.
58	Comment noted
59	Table 4-30 of the FEIS has been modified to include land jurisdiction of RFFs. Connected actions were identified for the Project, which included the proposed substations, communication facilities, and other facilities described in the Project description. Other proposed projects, that are not connected actions which could be implemented in the future have been identified as "future or reasonably foreseeable future actions" in Section 4.17.3.2, and evaluated in Section 4.17.4 Cumulative Effects by Resource.
60	It is acknowledged that the population projections shown in Table 3-58 last calculated by the Arizona Dept. of Economic Security based on 2006 data, and could be overestimated as stated in Section 3.13.4.1 of the DEIS. However, because the proposed Project would have no significant effect on population, the results of the impact analysis are not dependent on the population projections. Therefore the update to the projections is not warranted.
61	The most current census data available at the time of analysis was used. In many cases 2008, 2009 and 2010 data were available. Also see response to Comment No.60 regarding population projections.
62	Receptors are identified in the land use study Section 3.10.3 and maps Figures M10-1 E and W. Text was modified in Section 3.15.3 of the FEIS to indicate inventory of noise sensitive receptors.
63	Comment noted. (Additional information to be provided).
64	Maintenance described in 2.4.11.1. Regeneration stations in 2.4.7. The impacts disclosed for visual resources include construction, operation, and maintenance activities associated with the Project.

2396	Response to Comment
65	Chapter 3 describes access roads 2-68 to 2-73. The ground disturbance estimates are based on typical assumptions for construction associated with temporary disturbance for this project including structure work areas, wire splicing sites, wire pulling sites, wire tensioning sites, construction yards, and a concrete batch plant. Permanent disturbance estimates were based on needed space for structure base areas, substations, ancillary facilities, and permanent access roads. These estimates were provided by the project proponent engineers.
66	See Comment No.26 response.
67	The Preliminary POD was available for public review during the DEIS comment period that ended August 22, 2012. The impact analysis was included in Chapter 4 of the DEIS. The POD includes preliminary information to support the construction, operation, and maintenance plan, and proposed mitigation measures. The Analysis of Access Conditions and Potential Ground Disturbance (Appendix I) has been added and is included with the FEIS.

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					uniformly provided for each resource category.
68.	4.2.1	4-5		ASLD	See comment concerning DOI Secretary Order on climate change and CEQ guidance on method of analysis.
69.	4.2.1	4-6		ASLD	Because the locations of new and expanded access roads have not been identified in Chapter 2, it is difficult to quantify direct and indirect fugitive dust impacts as they relate to geographic areas with erosion-prone soils. What is the difference between fugitive dust and "paved and unpaved road dust"? Fugitive dust would also be a potential post-construction concern on soils that are prone to wind erosion and/or in areas with high winds.
70.	4.2.1	4-6		ASLD	Has the Applicant committed to use of Tier 3 engines to justify use in the model? What does "where possible" mean?
71.	4.2.2.1	4-7		ASLD	The text states that: "Emissions from construction and maintenance sources such as traffic, construction equipment, fugitive dust from earthmoving, etc., are generally not subject to federal or state limitations; but in some cases do require mitigation (such as watering of disturbed areas) or are indirectly regulated through limitations imposed on the subject equipment itself (e.g., motor vehicle tailpipe standards or diesel engine performance standards)." These emissions are regulated by federal, state, and local regulations, permits and ordinances. The 20 percent opacity threshold is a federal standard. Dust control permits for construction activities are required in the Counties of Maricopa, Pima, and Pinal. (See EPA Method 9 Opacity Determination)
72.	4.2.2.2	4-7		ASLD	The text states that: "As noted above, because operations emissions and impacts would be much lower than construction phase emissions and impacts, they have not been quantified; with the exception of SF6 from the circuit breakers." Operation emissions can be estimated for VOC's, CO, NOx, SOx, PM-10, PM-2.5, and CO2e in tons/year. Why are only SF6 emissions estimated?
73.	4.2.2.2	4-8		ASLD	The text states that: "Vehicle counts were converted to total vehicle miles travelled [VMT], assuming average speeds of 45 mph on paved roads and 20 mph on unpaved roads (limitation of speed on unpaved roads is also a mitigation measure)..." Pinal County requires as a "Control Measure" to not exceed 15 miles per hour for permitted areas as per Construction Site Fugitive Dust Rules. This does not mention that construction fugitive dust permits are a requirement for select counties.
74.	4.2.2.2	4-9		ASLD	This is based off of data derived from EPA Mobile6 emissions model. EPA has established M.O.V.E.S. emission model and is transitioning to require all modeling to incorporate the M.O.V.E.S. model as Mobile6 has too many assumptions and modeling errors.
75.	4.2.2.2	4-11		ASLD	The analysis should discuss that temporary concrete batch plants meeting specific limitations are not subject to New Source Review (NSR) Permitting. ADEQ does require Permit # 109 for temporary concrete batch plants that include fugitive dust and mobile source requirements (i.e. 40% opacity from equipment, and location change notification). This information would be useful and should be included with estimated emissions from each batch plant.
76.	4.2.2.3	4-12		ASLD	This states that annual impacts were not estimated because of vocational changes with construction. Most EIS's include annual emissions by state vs. state emissions standards to prove compliance.
77.	4.2.2.3	4-12		ASLD	This states that VOC's were not modeled because they are regulated as precursors to other pollutants. VOC's, GHG, CO2e, and Ozone are regional pollutants, contribute to Region Haze, and can be modeled. These constituents can be modeled by State.
78.	4.2.2.4	4-16		ASLD	The text does not discuss the Pinal Central Substation and the close proximity of the Pinal County Air Quality Department Pinal County Housing Complex air quality monitor (PCH). This should elaborate on EPA's SF6 Emission Reduction Partnership for Electric Power Systems and the guidance therein such as education and training opportunities. It may be a point of concern for Pinal County Air Quality Department to understand the close proximity of transformers containing SF6 to their air monitor. EPA states that one pound of SF6 has the same global warming impact as 11 tons of CO2. The PCH monitoring station already trends at higher than normal recordings.

2396	Response to Comment
68	Comment noted
69	"Paved and unpaved road dust" specifically refers to particulate matter from roadways and includes re-entrained surface particulates as well as particulates from tire wear. The more general term "fugitive dust" is used in the document to refer to particulate matter emitted from construction-type activities such as earthmoving. The distinction is made because there are separate emission factors for particulate matter emitted by traffic on paved and unpaved roads and construction emissions.
70	The assumption that no road engines would be subject to EPA's compression ignition nonroad engine Tier 3 emission factors was based on the timing of the Project activities relative to model year requirements and did not represent a commitment by the applicant. The phrase "where possible" has been removed and the text clarified to indicate that Tier 3 was assumed unless no Tier 3 standard was available for a given size range (e.g., equipment < 50 horsepower used Tier 2 emission factors because there are no Tier 3 standards for this size range). Text revised to Section 4.2.1 in the FEIS as follows: "Reasonable and feasible mitigation measures have been incorporated into the emission estimates. Best available control measures are often defined and, in some jurisdictions, required for use in controlling fugitive dust from construction operations, as well as from both paved and unpaved roads. The EPA has defined requirements for diesel nonroad engine emissions by model year (Tier standards). *The use of Tier 3 engines, where possible, is assumed as the default for quantification of diesel equipment emissions except where no Tier 3 standard is available for a given engine size range (e.g., Tier 2 was used for equipment < 50 horsepower*). The on-road emission factors used in this analysis include the effects of vehicle fleet turnover in reducing tailpipe emissions over time."
71	Not all emissions are regulated and those that are may not be subject to limitations (i.e., an emission standard) but instead may be subject to mitigation measures (work practice requirements) as stated in the text. The 20% opacity requirements is not a federal limitation for these types of sources but the evaluation of compliance with a state or local opacity limitation is based on a federal reference method (Method 9). Section 4.2.2.4 describes the federal, state, and local regulatory requirements applicable to the Project.

2396	Response to Comment
72	As stated in the text, emissions of pollutants other than SF6 have not been estimated for the operation phase of the project because they would be qualitatively similar to but emitted in much lower amounts than construction phase emissions. SF6 emissions were quantified for operation because leakage of this greenhouse gas (GHG) from circuit breakers at the substations would represent an ongoing emissions source over many years. In contrast, other GHG emissions from the project that would occur during construction would represent only temporary sources; therefore, the emission of SF6 during operation would be qualitatively different from construction phase GHG emissions.
73	A speed limitation of 20 mph for unpaved roads and of 45 mph for paved roads was used across the board to calculate emissions in all jurisdictions. Where local requirements mandate lower speeds, the emission estimates provided will be conservative overestimations of expected emissions. Text revised to Section 4.2.2.4 in the FEIS as follows: "Pinal County, Arizona, has similar requirements to those in Pima County and in other areas of Arizona with regard to dust mitigation, as codified in the Pinal County Air Quality Control District (PCAQCD) Code of Regulations Chapter 4, Article 2. In addition, PCAQCD Chapter 2, Article 8 limits the opacity of emissions. PCAQCD Chapter 4, Article 3 requires a fugitive dust registration for any area of disturbance greater than 0.1 acre. The registered activity is required to follow Universal Performance Standards to limit dust generation, as spelled out in the regulations. Dust-generating activities within the West Pinal County PM10 nonattainment area are subject to further restrictions, including application of specified mitigation measures, and will also likely require a permit from the county. Concrete Batch Plant and Transmission Line Operation The concrete batch plants would be considered stationary or portable stationary sources in most air quality jurisdictions."
74	EPA has recently required the use of the updated MOVES2010 mobile source emissions model for certain analyses, including transportation conformity and State Implementation Plan inventories, neither of which is a subject of this EIS. MOVES2010 was promulgated in early 2010 and was subject to a 2-year phase-in period. Because traffic emissions are a relatively insignificant portion of the overall Project emissions, the analysis has not been updated to use MOVES2010.
75	At this time it is unclear whether the batch plants will be temporary or portable sources. If a permit is required, the batch plant (or plants) may qualify for coverage under Arizona's Concrete Batch Plant General Permit. Text revised to Section 4.2.2.2 in the FEIS as follows: "*Concrete batch* plants would be constructed and operated to supply concrete for the Project approximately every 30 miles along the right-of-way. Emissions generated in the construction of the batch plants were discussed in previous subsections." Text revised to Section 4.2.2.4 in the FEIS as follows: "Arizona may require a construction permit for the batch plants (AAC R18-2-302). If so, the batch plant (or plants) may qualify for coverage under the Concrete Batch Plant General Permit. Portable sources that would operate under more than one jurisdiction would apply to ADEQ, while any batch plant that would operate only in Pima or Pinal counties would apply for a county, rather than a state, permit. The appropriate permitting authority (ADEQ, PCAQCD, or the Pima County Department of Environmental Quality [PDEQ]) should be consulted prior to batch plant construction (AAC R18-2-302)."
76	Annual emissions have been quantified and are found in the Appendix F. Annual *impacts* refer to groundlevel concentrations estimated through modeling. Impacts from construction-type activities (fugitive dust, construction equipment tailpipe emissions) are localized because they are emitted from relatively low-level sources. Because the construction activities will continually move along the transmission line route, annual impacts have not been estimated because the groundlevel concentrations in any given location would be similar to those produced from shorter activity periods (i.e., emitting activities would have moved to a different location and thus be impacting a different location).
77	VOCs (as precursors to ozone) and pollutants that contribute to regional haze are modeled by various planning organizations for regional planning or SIP-development purposes. Secondary pollutants such as ozone or regional haze that are formed in the atmosphere from precursor substances as they disperse downwind can only be accurately estimated by modeling all regional sources, a complex undertaking. As a result, ozone and haze, etc., but are not generally modeled for individual sources, particularly temporary ones such as the construction phase of this project With respect to individual GHGs, and CO_2e (carbon dioxide equivalent, a compound measure of GHGs), modeling is not performed on a local or regional basis because there are currently no standards governing ambient concentrations of GHGs.
78	Air quality data from the Pinal County Housing Complex monitoring site (PCH) has been added to Table 3-5. The PCH site measures particulate matter and SF6 emissions would not be picked up by this monitor. A brief description of EPA's SF6 Emission Reduction Partnership for Text revised to Section 4.2.2.5 in the FEIS as follows: "Leak detection monitoring that would alert when a circuit breaker loses 10 percent of its SF_6 is proposed to mitigate GHG emissions from the substations. *In addition, the project proponent may participate in EPA's SF6 Emission Reduction Partnership for Electric Power Systems. This voluntary pertnership's objective is to reduce SF_6 emissions via cost-effective technologies and practices. Partners agree to annually estimate SF_6 emissions, establish a strategy for replacing older, leakier pieces of equipment, implement SF_6 recycling, ensure that only knowledgeable personnel handle SF_6, and submit annual progress reports. EPA in turn, acts as a clearinghouse for technical information on successful strategies to reduce SF_6 emissions, provides partners with recognition for their achievements, and serves as a repository for data on partner's emission reduction achievements.*

2396	Response to Comment
78	General Conformity In 1993, the EPA promulgated a rule requiring federal actions to conform to State Implementation Plans (SIP). Conformity means that a federal action will not interfere with strategies to attain the NAAQS. New Mexico's conformity regulations are codified at NMAC 20.2.98. Arizona has incorporated the federal conformity requirements in 40 CFR 93, by reference in AAC R18-2-1438. Federal actions responsible for air pollutant emissions within a nonattainment or maintenance area must undergo a conformity applicability analysis to determine whether a conformity determination is necessary. None of the Project route groups would traverse any nonattainment or maintenance areas in New Mexico; therefore, the New Mexico portions of the proposed Project are exempted from conformity analysis. In Arizona, various proposed route groups would cross the Rillito PM_{10} nonattainment area, the *West Pinal County PM_{10} nonattainment area*, the San Manual SO_2 maintenance area, and the Tucson/Pima County CO maintenance area. *Conformity analyses are required for these four areas.* The Pinal Central Substation will be located in the West Pinal County PM_{10} nonattainment area; none of the other substations would be located in any nonattainment or maintenance area. Concrete batch plants may be located in one or more of the maintenance areas but it has been assumed that no batch plant would be located within either of the PM_{10} nonattainment areas. To perform a conformity analysis, the total of Project-related direct and indirect emissions (such as emissions from associated traffic) is tested against *de minimis* emission levels. The total of direct and indirect emissions should include regulated precursor substances. Neither SO_2 nor CO has precursors. The definition of precursors to PM_{10} contained in 40 CFR 93 refers to "those pollutants described in the PM_{10} nonattainment area applicable SIP as significant contributors to the PM_{10} levels." The most recent SIP submittal for the Rillito area (*Final Arizona State Implementation Plan, Rillito PM_{10} Nonattainment Area*; ADEQ 2008) does not list any substance other than directly emitted PM_{10}; therefore, only directly emitted PM_{10} was included in the total of direct and indirect emissions for the Rillito nonattainment area. *There is no SIP yet for the recently designated West Pinal County PM_{10} nonattainment area; however, the Technical Support Document, Pinal County, Arizona, Area Redesignation for the 1987 24-hour PM_{10} NAAQS (EPA 2010) indicates: "Emissions of SO_2, NO_x, VOCs (volatile organic compounds) and NH_3 (ammonia), which are precursors of secondary PM_{10}, are included for informational purposes in Appendix A but were not considered because the PM_{10} problem in Pinal County is primarily a fugitive dust problem." Therefore, only directly emitted PM_{10} was included in the total of direct and indirect emissions for the West Pinal County PM_{10} nonattainment area.* Conformity determinations are required for any federal action where the total of direct and indirect emissions exceeds the annual *de minimis* thresholds. To calculate emissions within each of the *four* areas, pollutant emissions for construction of the transmission line route groups that would traverse the nonattainment or maintenance areas were converted to a ton per mile of transmission line basis, and then multiplied by the number of miles in the longest route that crosses a given nonattainment or maintenance area. The maximum 12-month emissions at any point during the Project schedule were used in these calculations to provide a conservative estimate of total emissions. It was assumed that only one transmission line would be built within each nonattainment or maintenance area in a 12-month period (i.e., construction of the first AC line and the second AC or DC line would not overlap in *both* time and space). This assumption is reasonable, considering that the maximum length of any transmission line through any of the nonattainment or maintenance areas is less than 30 miles; a small fraction of the total expected transmission line lengths (minimum length of approximately 460 miles). Emissions from the construction of batch plants were added to the transmission line construction emissions to provide total estimated emissions within each nonattainment or maintenance area. Only 15 miles of the transmission line route would traverse the Rillito PM_{10} nonattainment area *and approximately 6 miles would traverse the West Pinal County PM_{10} nonattainment area*; therefore, since batch plants are expected to be constructed every 30 miles along the right-of-way, it was assumed that a concrete batch plant would not be built/operated within *either of the nonattainment areas*. For the San Manuel SO_2 maintenance area, a single batch plant was included, based on the length of the longest transmission line route to cross the area. For the Tucson/Pima County CO maintenance area, two batch plants were included in the calculations" Text revised to Section 4.2.3.2 in the FEIS as follows: "For the impacts summarized in Appendix F, if the dispersion modeling projected that the SIL would be exceeded or if there was no EPA-defined SIL, the Project impact was added to a representative background concentration and the total compared with the applicable ambient standards (federal or state). The background concentrations used were recent measured values from nearby monitoring sites and represent ambient concentrations of pollutants contributed by sources other than the Project. As shown in Appendix F, most impacts were predicted to be within regulatory limits (below the applicable National, Arizona, and/or New Mexico Ambient Air Quality Standards). *Because of high background concentrations of PM_{10} within the West Pinal County PM_{10} nonattainment area, maximum total 24-hour PM_{10} impacts (project + background) from transmission line and Pinal Central Substation construction were projected to potentially exceed the numerical value of the PM_{10} standards. It should be noted that the form of the standard is "not to be exceeded more than once per year, on average over three years." The modeled concentrations used in this comparison were maximum impacts (rather than second high impacts, as would fit the form of the standard) due to the screening nature of the dispersion model used. Also, maximum project emissions within the nonattainment area are unlikely to persist over three years, due to the short segment of transmission line (approximately 6 miles) within the nonattainment area…*

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78	

Table 4—1. Conformity Analysis Results

Nonattainment or Maintenance Area/Pollutant	Total of Direct and Indirect Emissions (tons per year)	Conformity de Minimis Levels (tons per year)
One 500 kV Single-Circuit, AC Facility (First Line)		
Rillito Nonattainment Area/PM_{10}	97.6	100
Tucson/Pima County Maintenance Area/CO	59.2	100
San Manuel Maintenance Area/SO_2	0.09	100
West Pinal County Nonattainment Area/PM_{10}	*47.65*	*100*
Option A: Two 500 kV Single-Circuit, AC Facilities		
Rillito Nonattainment Area/PM_{10}	93.2	100
Tucson/Pima County Maintenance Area/CO	58.7	100
San Manuel Maintenance Area/SO_2	0.09	100
West Pinal County Nonattainment Area/PM_{10}	*47.65*	*100*
Option B: One 500 kV Single-Circuit AC Facility and One 500 kV Single-Circuit DC Facility		
Rillito Nonattainment Area/PM_{10}	95.2	100
Tucson/Pima County Maintenance Area/CO	62.9	100
San Manuel Maintenance Area/SO_2	0.09	100
West Pinal County Nonattainment Area/PM_{10}	*50.96*	*100*

Criteria pollutant emissions associated with construction and expansion of the Willow-500 kV and Pinal Central substations; GHG emissions associated with construction and operation of the two substations; and impacts associated with the construction of the two substations are shown in Appendix F.

Text revised to Section 4.2.3.5 in the FEIS as follows:

With the exception of 24-hour PM_{10}, all impacts are predicted to be within regulatory limits (below the applicable National and/or Arizona Ambient Air Quality Standards). Because of high background concentrations of PM_{10} within the West Pinal County PM_{10} nonattainment area, maximum total 24-hour PM_{10} impacts (project + background) from transmission line and Pinal Central Substation construction were projected to potentially exceed the numerical value of the PM_{10} standards. It should be noted that the form of the standard is "not to be exceeded more than once per year, on average over three years." The modeled concentrations used in this comparison were maximum impacts (rather than second high impacts, as would fit the form of the standard) due to the screening nature of the dispersion model used. Also, maximum project emissions within the nonattainment area are unlikely to persist over three years, due to the short segment of transmission line (approximately 6 miles) within the nonattainment area. As a result, an actual exceedance of the standard due to Project activities is unlikely but cannot be ruled out. Therefore, a potential significant impact (see Section 4.2.2.1) could result from project construction activities."

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79.	4.2.2.5	4-16		ASLD	The text states: "Following construction, disturbed areas would be reclaimed with native vegetation or seed mix prescribed by the land-management agency, which would limit ongoing fugitive dust emissions." Consider changing the sentence by removing the term "seed mix" and inserting (stabilization methods such as native vegetation, groundcover of non-erodible elements, or approved soil stabilization palliatives as prescribed by the ....) Seed mixes usually must be approved prior to use and can be difficult to obtain.
80.	4.2.2.5	4-17		ASLD	The mitigation measures include speed limitations of 20 miles per hour for unpaved roads. However, 15 miles per hour is standard dust permit language for dirt roads during construction phase.
81.	4.2.2.5	4-17		ASLD	The mitigation measures include sweeping up trackout every 14 days. This measure is not sufficient for select counties (Pinal and Pima Counties in Arizona). Pinal County, for example, indicates cleaning of trackout immediately when trackout exceeds 50 linear-foot or more and at the end of the work day for construction phase.
82.	4.2.3.1	4-18		ASLD	The DEIS says that "the No Action Alternative would also not facilitate transport of power from energy projects to markets. As a result, overall future GHG emissions could be higher, because a larger portion of future power demand would be met with higher GHG-emitting fossil fuel power plants." This statement suggests that some of reasonably foreseeable future renewable energy projects identified in Table 4-30 (Cumulative Effects) have potential to be connected actions.
83.	4.2.3.2	4-18		ASLD	New and expanded unpaved access roads and other land disturbance areas have potential for long-term contributions of fugitive dust from wind and use by motorized vehicles. Impacts may be within regulatory limits but should still be disclosed for both construction and operations.
84.	Chapter 4			ASLD	The operation phase of this power line may require air quality block permits for maintenance in select counties. Please research and discuss.
85.	4.3.1	4-21		ASLD	Impacts to earth resources from construction blasting not discussed. Blasting would have potential impacts on other resources as well
86.	4.4.2.1	4-44		ASLD	Impacts to paleontological resources from construction blasting not discussed.
87.	4.5.1.2	4-50		ASLD	Impacts to groundwater resources from construction blasting not discussed.
88.	4.6.4.6	4-84	A7 - Ranch	ASLD	ASLD ADEIS Comment 12 is relevant to this discussion: "Clarification to specific lands which Pima County may have acquired within the boundaries of the A7 Ranch through the "Pima County Conservation Land System". State Trust lands within the boundaries and under grazing lease are for grazing purposes and should be clarified to the allowable uses which do not include conservation areas and/or easements."
89.	4.7.3	4-104;		ASLD	Analysis is missing about how wildlife fire ecology, fire risk, and fire management might vary between routes due to landscape conditions and jurisdictional differences.
90.	4.8.3	114		ASLD	The construction of new access roads may allow for increased ORV use, which could adversely affect cultural resources. This indirect and cumulative effect should be addressed.
91.	4.8.1	4-108		ASLD	Vibrations from construction equipment and construction activities (such as blasting and drilling; see Chapter 2, 2.4.10.4, P. 2-74, Foundation Installation) should be considered as a possible impact, especially for historic buildings or prehistoric sites with masonry or adobe walls.
92.	4.8.2	4-112,	Impact Levels	ASLD	The impact levels discussion does not appear to take indirect or cumulative effects into account; it only references construction impacts. It should be made clear whether indirect and cumulative effects are being considered for all properties.
93.	4.8.3.3	4-122, 4-129, 4-130)		ASLD	SE 10 is referenced as a mitigation measure in several locations, but is not in the mitigation measures list.
94.	4.8.3.4	4-129, 4-130)		ASLD	SE 10 is referenced as a mitigation measure in several locations, but is not in the mitigation measures list.

2396	Response to Comment
79	Text revised to Section 4.2.2.5 in the FEIS as follows: "Mitigation measures would be used to limit particulate matter emissions during both the construction and operational phases of the Project. As noted in the previous section, dust control plans or permits would be required in specific areas of New Mexico, subject to NEAPs, and in some Arizona jurisdictions. Such permits or plans would detail specific mitigation measures to be applied and would be adhered to (see ST 20). In Arizona, even where plans or permits are not required, the Project would still be subject to fugitive dust control measures mandated by the applicable regulations. Following construction, disturbed areas would be reclaimed *using stabilization methods such as native vegetation, groundcover of non-erodible elements, or approved soil stabilization palliatives* as prescribed by the land-management agency, which would limit ongoing fugitive dust emissions. "
80	A speed limitation of 20 mph for unpaved roads and of 45 mph for paved roads was used across the board to calculate emissions in all jurisdictions. Where local requirements mandate lower speeds, the emission estimates provided will be conservative overestimations of expected emissions. Text revised to Section 4.2.2.4 in the FEIS as follows: • "Arizona generally limits the opacity of emissions to 20 percent (AAC R18-2-702) *but specific requirements may specify a different limitation."* Text revised to Section 4.2.2.5 in the FEIS as follows: • "Limitation of speeds on unpaved roads to 20 *mph in most areas* • Sweeping up tracked-out dirt where unpaved roads or disturbed areas meet paved roads every 14 days, using PM_{10} efficient street sweepers, in areas of active construction or use • Concrete batch plants will be restricted to areas outside of the West Pinal County and Rillito PM_{10} nonattainment areas"

2396	Response to Comment
81	Sweeping up tracked out dirt every 14 days was used across the board to calculate emissions in all jurisdictions. Where local requirements mandate more frequent sweeping, the emission estimates provided are conservative overestimations of expected emissions.
82	Text modified in Section 4.2.3.1 of the FEIS to delete statement regarding GHG emissions.
83	Construction phase emissions from unpaved roads and from other land disturbance activities are quantified in Appendix F. Emissions of pollutants other than SF6 have not been estimated for the operation phase of the project because they would be qualitatively similar to but emitted in much lower amounts than construction phase emissions. With respect to long-term fugitive dust emissions from unpaved roads and disturbed areas, studies have shown that the erosion potential of the surface decreases over time unless actively disturbed (see EPA's AP-42, Compilation of Emission Factors, Chapter 13.2.5). Therefore, emissions from disturbed areas would not be continuous but would represent periodic episodes of erosion during and following disturbance by traffic or other operation and maintenance activities.
84	A discussion has been added to Section 4.2.2.4. • "Pima County has opacity limitations for point sources that apply within the county (Pima County Code of Ordinances, 17.16.040). It is expected that few air quality requirements would apply to the operation phase of the transmission line. However, in some cases dust control permits may be required for certain maintenance activities. The appropriate permitting authority should be consulted regarding permit or other dust control requirements for specific maintenance activities that would result in particulate matter emissions, such as any earthmoving activities."
85	Text modified in Section 4.3.2 of the FEIS to discuss potential blasting impacts.
86	Text modified in Section 4.4.2 of the FEIS to discuss potential blasting impacts.
87	Text modified in Section 4.5.2 of the FEIS to discuss potential blasting impacts.
88	Comment noted
89	There is little information available to support discussion on clear differences between fire risk and management on some alternatives. However, discussion of constraints caused by terrain and vegetation has been added to Section 4.7.2. 4.7.2 "Impact Assessment Methods Most impacts that could result from the proposed Project on wildland fire ecology and management cannot be quantified *or feasibly compared between alternatives*. Fires may be ignited naturally, accidentally, *or intentionally* at any location. Incidents involving operation of the proposed Project, such as vehicle and aircraft collisions or failure of any structural components, cannot be predicted. The extent and effects of any fires that do occur would vary with the conditions at that time, as well as the specific resources that would be affected. Impacts to fire planning can be discussed at a broader scale, but any effects on desired fire management, such as the use of prescribed fire, also cannot be predicted. Plans for individual prescribed fires are typically developed on time scales that are relatively short compared to the development of a large-scale transmission line."
90	Discussion of OHV use and its effect on cultural resources has been added to Section 4.17.4.8 of the FEIS.
91	Comment noted
92	Discussion of impact from indirect and cumulative effects is included in Section 4.17.4.8.
93	SE-10 is located in Chapter 2 Table 2-11.
94	SE-10 is located in Chapter 2 Table 2-11.

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95.	4.8.3.4	4-124			It is not clear if the Butterfield and Zuniga trails would be impacted by the Preferred Alternative.
96.	4.8.3.4	4-124		ASLD	Potential physical, visual, and indirect impacts from construction and operation of the Preferred Alternative on cultural resources are not clear.
97.	4.8.4	4-131		ASLD	The introductory sentence of the Summary indicates that impacts are listed; however, the lists contain a lot of different information, not just related to impacts. The impacts themselves should be explained clearly per NEPA: physical impact from construction, visual impact from towers, potential impacts from construction of access road resulting in vehicular damage, etc. If a field survey did not relocate a trail, and there would be no impact, state "no impact". Indicating that the line would cross a trail is not meaningful without a conclusion about the potential impact.
98.					Overall, the DEIS should include a more clearly defined explanation for the assessment of potential impacts to visual resources and a disclosure of compliance. The discussion of analysis should include an explanation impacts to scenic quality on all lands per NEPA, as well as potential direct and indirect impacts to visual resources, including those associated with scenic roads and byways, historic and recreational trails, wilderness areas, wilderness study areas, wilderness characteristic areas, ACECs, and other potentially affected areas. Following the analysis, the discussion of compliance should include compliance with all existing management objectives—not just those of the BLM, counties, and cities. Compliance with scenic roads and byways, historic and recreational trails, wilderness areas, wilderness study areas, wilderness characteristic areas, ACECs, and other potentially affected areas should also be included.
99.	4.9.1	4-132		ASLD	Both short-term and long-term impacts on visual resources should be described per NEPA
100.	4.9.2	4-133		ASLD	It appears that KOPs are used to determine visual contrast at point locations throughout the corridors, but it is not clear how impacts to visual resources between the various points are evaluated or how compliance is determined.
101.	4.9.2	4-133		ASLD	More explanation is needed to describe how "...the GIS was used to assess initial impacts to scenery and viewing locations in conjunction with field investigations and BLM procedures."
102.	4.9.2.1	4-134		ASLD	The DEIS states that "...each project alternative was assigned one of the five following contrast levels..." It is not clear whether each alternative really has just one contrast level, or whether the contrast levels change throughout the alternative based on the existing landscape characteristics.
103.	4.9.2.1	4-134 and -135		ASLD	The discussion regarding impacts to scenery is not clear. It seems that changes in scenic quality would need to be re-evaluated using the numbered rating system that they are based on, and potential changes to scenic quality ratings that would result in scenic quality class changes would need to be disclosed.
104.	4.9.2.1	4-134 and -135		ASLD	The discussion about influence zones is not clear. What do they mean and how are they used in the assessment?
105.	4.9.2.1	4-135		ASLD	The rationale for 34 simulations needs to be provided. Considering the total length of all of the alternatives, more simulations may be warranted to fully illustrate the potential impacts to the resource.
106.	4.9.2.1	4-135		ASLD	It is not clear what "VRI Classification affected by the Project" means. Does it mean that VRI classes would have a change in classification, or just that they would be crossed by the project, but remain in their existing classification rating?
107.	4.9.3.2	4-155		ASLD	The rationale for stating that compliance is anticipated for link B140 needs more explanation. There are existing modifications such as roads and a railroad, but there don't appear to be existing 500-kV towers with strong vertical lines and forms that would be similar to those proposed. There would still be considerable contrast associated with the vertical forms and lines.
108.		Map 9-2		ASLD	More information is needed regarding the rationale for recreation and travel route zones in relation to visibility of the project, and whether or not visibility would be limited by landforms in some locations.
109.		Map 9-3		ASLD	More information is needed regarding the rationale for residential distance zones in relation to visibility of the project, and whether or not visibility would be limited by landforms in some locations.

2396	Response to Comment
95	Discussion of impacts to Zuniga and Butterfield trails for each of the affected alternatives in Section 4.8.3.4. An inventory and analysis of National Historic and Scenic Trails is appended to the FEIS, Appendix L.
96	Clarification of potential physical, visual and indirect impacts has been added to Section 4.8 and 4.17.8 of the FEIS.
97	The analysis is largely based on locations of known sites which comprise only a small portion of the alternatives that have been studied. According to the Programmatic Agreement a Class III survey will be conducted prior to construction and impacts would be treated as appropriate.
98	Inventory and impact assessment methodology is provided in Chapter 3 and 4 for visual resources (page 4-136, page 4-190).. The visual assessment included a complete analysis of all lands, regardless of jurisdiction, for scenic quality and viewing locations including associated KOPs (travel routes, recreation, residences). As required by the BLM VRM system, the assessment also included the BLM's Visual Resource Inventory (VRI) data. Regarding assessment of compliance, the BLM VRM system requires the inventory of scenic values and the establishment of management objectives for those values. The VRI process and its resulting information provide the information necessary to characterize the existing or affected environment, and are required for management and Project level decisions. BLM VRM classifications and associated objectives define the levels of acceptable visual change allowed on BLM-administered land. Regulatory Framework outlined in Chapter 3 includes applicable agency, county, and city goals, policies, or objectives regarding visual resources. The BLM is the only land-managing agency affected by this project that manages visual resources. Thus, the compliance assessment portion is applicable to BLM-administered lands with VRM classifications.
99	Short-term impacts are identified as initial impacts which consider the project description, standard mitigation, BMP's, and agency consultation. Long-term impacts are referred to as residual impacts which include identification of selective mitigation measures that would be implemented during the construction and operation of the project to reduce impacts to visual resources. These impacts are described in Section 4.9.1 to 4.9.3.
100	A Project-wide contrast analysis was conducted to establish a baseline for anticipated landscape change. This baseline was utilized in the impact assessment for viewing locations throughout the study area including residences, roads, trails, and other recreation areas/sites. The BLM VRM system requires identification of KOPs and evaluation of visual contrast from these locations to determine (1) impacts to the viewing public and (2) conformance with VRM objectives. The impact assessment approach outlined in the visual resources section not only responds to BLM VRM requirements but includes an assessment of viewers throughout the study area regardless of jurisdiction.

2396	Response to Comment
101	GIS data, field verification, and consultation with BLM visual specialists was used to assess initial impacts to visual resources. This identifies to the reader that field verification and other BLM procedures were used along with GIS data to identify impacts to visual resources. It is important for the reviewer to understand that the resulting impacts were not derived through one single process but several integrated techniques. GIS is a helpful tool but field verification and consultation with the BLM visual specialists is a critical component to the evaluation of impacts.
102	Text revised for clarification in Section 4.9.2.1 in the FEIS as follows: Using this method, the five following contrast levels were assigned along all portions of the Project alternatives: weak, weak-moderate, moderate, moderate-strong, and strong.
103	The visual resource assessment methodology was reviewed and approved by the BLM. The visual resource impacts disclosed in the DEIS follow this BLM approved methodology. Changes to VRM classifications would require amendments to BLM RMPs and are noted in Table 2-16 of the EIS.
104	Influence zones were identified to quantify visibility anticipated for this Project. To avoid confusion with BLM defined Distance Zones, as part of the VRI process, the term influence zone was used to describe Project visibility from viewing locations and KOPs. These influence zones are illustrated in the Map Volume for Viewing Locations and KOPs.
105	Input regarding the selection of simulation viewpoints was coordinated with BLM Visual Resource Specialists and respond, in part, to public/agency scoping comments received. These locations illustrate the range of typical impacts to viewing locations and KOPs anticipated occurring throughout the project study area. The selected simulations represent each viewing location type, associated concern level, and distance (influence zone) from the Project. Detailed rational for the selection of identified KOP locations for simulation rendering is provided in Appendix D.
106	Per BLM direction, the percentage of VRI Classification data (i.e., unit area) affected by the Project was calculated as compared to the total unit area crossed. Appendix D describes the miles and acreage of VRI data affected by the project by each subroute.
107	As stated on pg. 4-155, project contrast would be strong to moderate-strong. Conformance with VRM Class II would be achieved due to existing modifications including I-10, a major interstate corridor, and the railroad corridor both of which are associated with an industrial setting.
108	Visibility of the project in certain locations may be partially to completely screened by topography, vegetation, and/or development. This information was documented in the field and is described in detail in Appendix D – Contrast Rating Worksheets from KOPs. These KOPs are representative viewing locations that may have views that are completely screened to unobstructed so it gives the reviewer an idea of what to expect regarding impacts.
109	See response to comment 108.

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110.	4.9.2.1	4-136		ASLD	The DEIS does not disclose the significance of the impacts to the resource according to CEQ guidelines. The analysis of potential visual resource impacts appears to be biased to landscapes that are only visible from identified KOPs. The DEIS does not seem to address the overall magnitude of change to the existing visual resources of the landscape being affected by the proposed project either on BLM or non-BLM administered lands. The DEIS also indicates that segments of the project traversing landscapes designated as VRM Class II or Class III that are not visible from viewing locations or KOPs with a moderate or high level of concern are generally considered to be in compliance with their associated VRM classes, no matter what the magnitude of change would be to existing visual character or quality. BLM's VRM classifications refer only to the level or magnitude of change to the characteristic landscape; compliance is not measured based on visibility or supposed level of concern for the areas.
111.	4.10.3	4-185		ASLD	There is no analysis of conformance with land use plans from non-federal jurisdictions.
112.	4.10.5	4-185		ASLD	The land use impact analysis does not specifically discuss what jurisdictions are impacted or always provide the rationale for the impact level assigned. The text is primarily focused on impacts to BLM offices.
113.	4.10.5	4-185		ASLD	ASLD ADEIS Comment 7 is applicable to this: "It is unclear if the proposed alignment and ultimate location of associated roads, substations, pole locations...take into consideration the creation of remnant parcels (location, size, shape or other characteristics of a parcel relative to its future economic value)."
114.	4.10.3	4-185		ASLD	No specific discussion of Trust Land beneficiaries or potential impacts to beneficiaries.
115.	4.13.4.3	4-212		ASLD	The economic impact analysis only focuses on positive economic impacts (jobs) associated with project construction. Potential negative economic impacts to agriculture or other sectors are minimized in the "Other Impacts".
116.	4.13.4.3	4-212		ASLD	There is no mention of potential economic impacts to current and future state trust land beneficiaries.
117.	4.13.4.5	4-218		ASLD	Twenty percent of vegetation in the ROW is projected for disturbance and would be an impact to grazing. The level of impact to agriculture and livestock grazing has not been quantified or stated. Indirect impacts to agriculture and grazing are not stated.
118.	4.14	4-220		ASLD	See previous comment about use of census data (2005-2009) that predates the recession. More recent and accurate census data is available.
119.	4.14.2	4-221		ASLD	When a statement about the level of impact is provided, the rationale is not always given.
120.	4.14.3.5	4-228		ASLD	More discussion is warranted about the potential environmental justice impacts associated with the Pinal Central Substation. What is the land jurisdiction? Specifically, what are the impacts using the criteria in Table 4-20? No mention of other substations?
121.	4.15.3.2	4-231 and -232; Audible Noise		ASLD	Helicopters are not listed in Table 4-26. Have sensitive receptors been mapped? The conclusion that "temporary high impacts"...would be "possibly considered only as a nuisance" is not justified by the analysis. Also, temporary high impacts do not necessarily equate to "negligible" impacts.
122.	4.15.3.2	4-234			Concerning SF6, see previous comment about climate change analysis per DOI Secretary Order and CEQ guidance.
123.					A summary of the impacts of the BLM preferred alternative is missing from this resource.
124.	4.17.3.2	4-247		ASLD	Future actions are reasonably foreseeable once they are proposed and need to be considered in the NEPA cumulative impacts analysis. These are identified with an "RFF" in Table 4-30. It is not clear what the "future" status is meant to indicate in this document and in the table. If the action is not reasonably foreseeable per NEPA, it should not be included in the cumulative effects discussion.

2396	Response to Comment
110	Inventory and impact assessment methodology is provided in Chapter 3 and 4 for visual resources. The visual assessment included a complete analysis of all lands, regardless of jurisdiction, for scenic quality and viewing locations including associated KOPs (travel routes, recreation, residences). As part of the BLM VRM system, KOPs are required to conduct the impact assessment and determination of conformance with VRM objectives. This assessment goes beyond identification of KOPs but examines viewing locations throughout the project study area regardless of jurisdiction. The discussion in Chapter 3 and 4 notes these viewing locations and selected KOPs. Per direction of the BLM, the contrast rating from all KOPs was used to ascertain conformance with BLM VRM Classifications. If the contrast rating level exceeds the BLM VRM Class objectives from any KOP, then the project was determined to be non-conforming.
111	Comment noted
112	Comment noted
113	Specific project design and engineering has not been completed, and the creation of remnant parcels is unknown at this time.
114	Text was modified in Section 4.10.3 to address additional revenue generated by utility right-of-way easements
115	Comment noted
116	See Comment No.114.
117	Text to Section 4.13.4.5 was modified in the FEIS to indicate impacts to grazing.
118	See Comment No.61.
119	Comment noted

2396	Response to Comment
120	Section 4.13.3.5 of the DEIS states that the Pinal Central Substation, which has been permitted and will be constructed prior to the Project, is the only substation located within an environmental justice population area. The addition to the Pinal Central Substation required for the SunZia Project would result in a minimal area of disturbance, and therefore would not affect environmental justice populations.
121	It is anticipated that impacts to residential and other receptors would be short term and temporary, although the specific locations, frequency and duration of helicopter use have not been determined at this time.
122	Comment noted
123	Comment noted
124	As stated in Section 4.17.3 of the DEIS future projects are defined. Future renewable energy developments were used to forecast energy development scenarios.

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125.	4.17.3.2	4-248			Potential cumulative impacts associated with the Southline Transmission Project are dismissed due to insufficient information on the project as of January 2012. Since the BLM is lead agency on both projects and both projects include a similar project area, the conclusion that the Southline project "cannot be meaningfully evaluated in this analysis" is questionable. The Southline project is a similar action as defined by CFR (1508.25 (a) (3)). Similar actions are those that have similar geography, timing, purpose, or any other feature that provides a basis for evaluating their combined impacts in a single NEPA document.
126.		4-251	Table 4-30	ASLD	Only one reasonably foreseeable future subdivision has been identified for Arizona; is this current information?
127.		4-251	Table 4-30	ASLD	The status of many of the actions listed in Table 4-30 also occurred in the past.
128.		4-267	Table 4-31	ASLD	See previous comments about renewable energy generation projects listed as RFF that need to be evaluated to determine whether or not they are connected actions. Additionally, reasonably foreseeable future actions must be considered as part of a cumulative effects analysis. It is unclear what is meant by "future" status in this table. If the project is not reasonably foreseeable per NEPA, it should not be included.
129.	2.4.10.1	2-69		ASLD	Some existing roads on Arizona State Trust are the result of trespass activities and are not appropriate for use. Specific access routes must be identified and approved by the Department prior to use.
130.	2.4.10.1	2-70		ASLD	Overland construction methods, i.e., overland drive and crush; overland cut and clear are not permitted on Arizona State Trust land. All vehicular travel is to be restricted to existing roads and trails approved by the Department.
131.	2.4.10.1	2-70		ASLD	Insufficient information available to evaluate proposed decommissioning of temporary roads.
132.	2.4.10.1	2-72		ASLD	New roads should be blocked or reclaimed after construction to avoid trail proliferation on Arizona State Trust land.
133.	2.4.10.1	2-72		ASLD	Some existing roads and trails may be permitted for other uses. Applicant needs to conduct due diligence to ensure that these routes are not impacted by construction.
134.	2.4.10.1	2-72		ASLD	Vehicular operations on wet soils cause compaction which leads to loss of vegetation and exacerbates erosion.
135.	2.4.10.1	2-72		ASLD	Insufficient information to evaluate potential for increased sedimentation associated with construction on Arizona State Trust land.
136.	3.6.1.2	3-72		ASLD	The Trust must be compensated for all vegetation removed in conjunction with construction, not just species protected under the Arizona Native Plant Law. A native plant survey is required.
137.	3.8.1.2	3-137		ASLD	100% of the final alignment of the right-of-way over Arizona State Trust land must have a Class 3 Survey approved by the Department prior to construction. The survey must identify all sites for register eligibility and include recommendations for data recovery and further evaluation.
138.	3.8.1.2	3-137		ASLD	If helicopters are utilized for construction, all fly-yard locations must also be surveyed for cultural resources.
139.		4-29	Table 4-9	ASLD	Unable to evaluate impacts to soil since line crosses states and does not delineate land management status
140.	4.3.4	4-25		ASLD	Insufficient information to evaluate erosion potential on Arizona State Trust land, both direct and indirect.
141.	4.6.4.2	4-64		ASLD	Insufficient information available to evaluate projected impacts to vegetation and vegetation mitigation measures.
142.	4.13.4.5	4-218		ASLD	Insufficient information to evaluate potential impacts to grazing lands from loss of vegetation and other impacts associated with this project.

2396	Response to Comment
125	Additional data regarding the Southline Project that became available after the DEIS has been included in the analysis of cumulative impacts in Section 4.17 of the FEIS.
126	Information provided for subdivisions since the DEIS has been added in Sections 3.10.4 and cumulative impacts Section 4.17.10 of the FEIS.
127	By definition "Present" projects also includes past actions. Actions are only listed "Past" if they no longer exist.
128	See Comment No.124 response.
129	Specific project design and engineering has not been completed, and specific locations of regeneration sites are unknown at this time.
130	Overland construction would be used as mitigation to avoid construction of new bladed access roads, where existing roads and trails are available traffic would be restricted to those roads and trails.
131	Final engineering information is not available to determine what access roads may be decommissioned. The Final POD will include this detailed information.
132	Access roads that is not required for maintenance may be recommended for closure and would be reclaimed as specified in the POD (Appendix F – Right-of-Way Preparation, Reclamation, and Monitoring Framework Plan).
133	Upon final engineering, necessary permanent and temporary access roads will be identified in the final POD. Once this information is available, coordination with the appropriate land owner/agency can occur. As stated on page 2-72 of the DEIS, "In certain areas, it could be necessary to block roads after construction to restrict future access for general and undesired use. Such areas would be identified through negotiations with the landowner or land-management agency, and identified in the final POD."
134	The concepts described in this section pertain to typical conditions. The occurrence of wet or saturated soils may be encountered due to rain/storm events in which measures to reduce soil compaction and erosion are outlined in the POD. Appendix A6, Section 3.2.1 specifies measures to be implemented when working in wet soils.

2396	Response to Comment
135	Final engineering will be incorporated in the final POD. As part of Appendix A6-Erosion, Dust Control, and Air Quality Plan of the POD, prior to ground disturbance, geotechnical studies will be conducted and a report for affected areas will be prepared to provide the project proponent more specific detail/measures regarding soil conservation within the Project area.
136	The text has been clarified as suggested. See text provided for Comment No. 45.
137	Comment noted
138	Comment noted
139	Information on impacts to soil, erosion hazards, minerals and geological hazards resources on ASLD lands have been added to Table 4-9.
140	See Comment No.139 response.
141	The types of impacts that may occur are described in section 4.2, and section 4.6.4.2 presents how impact levels were determined and how mitigation measures would be applied during the development of the final POD. The results of the impact analysis showing the extent of impacts are presented in Appendix H.
142	See Comment No.117 response.

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143.	3.3.4			ASLD	The mineral resource inventory does not include the Arizona State Land Department (ASLD) mineral-related leases or permits. Table 3-11 does not include ASLD mineral-related leases or permits. Our leases/permits should be included in the mineral inventory and applicable tables. Also, our leases/permits should be included in the sub route mineral descriptions as applicable. We can provide a map showing current locations of our Mineral Leases, Mineral Materials Leases, Exploration Permits, and Special Land Use Permits (SLUPs - this permit is issued for split estate in which ASLD owns surface estate, but doesn't own the mineral estate).
144.	3.3.6.1			ASLD	The mineral resource inventory does not include the Arizona State Land Department (ASLD) mineral-related leases or permits. Table 3-11 does not include ASLD mineral-related leases or permits. Our leases/permits should be included in the mineral inventory and applicable tables. Also, our leases/permits should be included in the sub route mineral descriptions as applicable. We can provide a map showing current locations of our Mineral Leases, Mineral Materials Leases, Exploration Permits, and Special Land Use Permits (SLUPs - this permit is issued for split estate in which ASLD owns surface estate, but doesn't own the mineral estate).
145.	4.3.2.2			ASLD	The mineral resource inventory does not include Arizona State Land Department (ASLD) mineral-related leases or permits. Tables 4-5 and 4-6 also do not include ASLD mineral-related leases or permits. ASLD active Mineral Leases, Mineral Materials Leases, and Pending Mineral Materials Leases should rate a value of "high" in Tables 4-5 and 4-6; Exploration Permits and Special Land Use Permits should rate a value of "moderate" these tables. We can provide a map showing current locations of our Mineral Leases, Mineral Materials Leases, Exploration Permits, and Special Land Use Permits (SLUPs - this permit is issued for split estate in which ASLD owns surface estate, but doesn't own the mineral estate). Our leases/permits should be included in the mineral inventory and applicable tables. Also, our leases/permits should be included in the sub route mineral descriptions as applicable.
146.	POD	3-3	Table 3-1	ASLD	If the regeneration facilities operate on electricity then the additional disturbance from electrical distribution lines and permanent access roads needs to be calculated in the table.
147.	POD	3-3	Table 3-1	ASLD	The proposed access road width both new and improved is excessive. A blanket approval for this size of road is not a best practices standard. The Arizona State Land Department will require a narrower roadway width in areas sensitive to excessive disturbance. As a Cooperating Agency the Department would appreciate the opportunity to discuss alternative design methods in order to minimize or avoid disturbance to State Lands.
148.	POD	3-3	Table 3-1	ASLD	Why is 10,000 square necessary for the regen site(s) if the building area equals 384 square feet? The area of the site needs to be justified.
149.	POD	3-3	Table 3-1	ASLD	The proposed site area for temporary construction yards needs to be held to a maximum area and not a range. Further, the siting of these yards should accommodate the environment as opposed to the environment accommodating the yard. If the range is intended to accommodate yards with different operational purposes then the yards should be categorized as such.
150.	POD	3-3	Table 3-1	ASLD	The proposed site area for the temporary concrete batch plants needs to be held to a maximum area and not a range. Further, the siting of these plants should accommodate the environment as opposed to the environment accommodating the plant. If the range is intended to accommodate plants with different operational purposes then the plants should be categorized as such.
151.	POD 3.1.2	3-4		ASLD	The Department cannot discern the benefits of the guyed V structure over the tubular steel structure. As mentioned in the ADEIS comments the Department prefers the tubular structures.
152.	POD 3.1.8	3-15	30-31	ASLD	What size of distribution line will be required? What are the standards for siting the line...?
153.	POD 3.1.11	3-16	26 – 35	ALSD	The proposed access road width both new and improved is excessive. A blanket approval for this size of road is not a best practices standard. The Arizona State Land Department will require a narrower roadway width in areas sensitive to excessive disturbance. As a Cooperating Agency the Department would appreciate the opportunity to discuss alternative design methods in order to minimize or avoid disturbance to State Lands.

2396	Response to Comment
143	Comment noted. (Data has been requested from ASLD)
144	Comment noted. (Data has been requested from ASLD)
145	Comment noted. (Data has been requested from ASLD)
146-153	Comments related to construction plans and specifications cannot be addressed prior to Project design and engineering. Comments regarding construction access and road reclamation described in the POD have been addressed and included in revisions to the Project description in Chapter 2 of the FEIS, the Preliminary POD, and the analysis of access conditions and potential ground disturbance has been appended to the FEIS, Appendix I.

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154.	POD 3.1.11	3-17	Figure 3-16	ASLD	A blanket approval for cut and fill is not a best practices standard. The Arizona State Land Department will require a less impacting grading design in areas sensitive to excessive disturbance. As a Cooperating Agency the Department would appreciate the opportunity to discuss alternative design methods in order to minimize or avoid disturbance to State Lands.
155.	POD 3.1.12	3-19	Table 3-3	ASLD	Does the area proposed for the Willow substation include ample area for future expansions? How will the substation serve future development on adjacent State Land?
156.	POD 4.1	A1-7	3-6	ASLD	Please contact the Arizona State Land Department for information regarding controlled access.
157.	POD 4.3	A1-8	24 – 26	ASLD	Please contact the Arizona State Land Department for information regarding use of gelling agents on State Land.
158.	POD 4.8.1	A1-12	16 – 18	ASLD	The Arizona State Land Department will not allow construction by products to be "disposed" of on State Land.
159.	POD 5.1	A1-15	13 -14	ASLD	The placement of the Willow substation should take into account existing access as a means to limit new disturbance on Arizona State Trust Lands.
160.	POD 5.4.1	5-2	35- 36	ASLD	Please contact the Arizona State Land Department as the Department's ROW terms will differ from BLM.
161.	POD 5.10	5-5		ASLD	Please contact the Arizona State Land Department as the Department's ROW terms will differ from BLM.
162.	POD 4	A3-3	7 – 31	ASLD	The proposed access road width both new and improved is excessive. A blanket approval for this size of road is not a best practices standard. The Arizona State Land Department will require a narrower roadway width in areas sensitive to excessive disturbance. As a Cooperating Agency the Department would appreciate the opportunity to discuss alternative design methods in order to minimize or avoid disturbance to State Lands.
163.	POD Appendix A9			ASLD	The plan does not clearly identify the Arizona State Land Department and its role as a majority land owner nor does it define its decision making ability as it relates to issuing a right of way. The Department needs to be included the variance approval, reporting and corrective procedures in the event of non-compliance processes. As a Cooperating Agency the Department would appreciate the opportunity to discuss ways to integrate the needs of the Department into the ECMP as it relates to Arizona State Trust Land.
164.	POD 2.1	D-1	14	ASLD	Please spell out Arizona State Trust Land
165.	POD 2.1.1	D-1	29 – 31	ASLD	Please update this section to include the Arizona State Land Department. As a Cooperating Agency the Department would appreciate the opportunity to discuss recreation permits and trespass standards as it relates to Arizona State Trust Land.
166.	POD 2.1.2		D-2	ASLD	Please contact the Arizona State Land Department's Natural Resource Division for information on rangeland management standards as the Departments standards differ from those of the BLM.
167.	POD 2.1.3		D-3	ASLD	Please contact the Arizona State Land Department's Natural Resource Division for information on agricultural management standards as the Departments standards differ from those of the BLM.
168.	POD 3.1	F-3	22 – 27	ASLD	Please update this section to include the Arizona State Land Department. As a Cooperating Agency the Department would appreciate the opportunity to discuss access control and restoration as it relates to Arizona State Trust Land.
169.	POD 6.1	F-20 - 21		ASLD	Please update this section to include the Arizona State Land Department. As a Cooperating Agency the Department would appreciate the opportunity to discuss native plant standards as it relates to Arizona State Trust Land.
170.	POD 6.2	F-31	18 – 21	ASLD	Please update this section to include the Arizona State Land Department. As a Cooperating Agency the Department would appreciate the opportunity to discuss signage standards as it relates to Arizona State Trust Land.

2396	Response to Comment
154-170	**Comments related to construction plans and specifications cannot be addressed prior to Project design and engineering. Comments regarding construction access and road reclamation described in the POD have been addressed and included in revisions to the Project description in Chapter 2 of the FEIS, the Preliminary POD, and the analysis of access conditions and potential ground disturbance has been appended to the FEIS, Appendix I.**

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171.	POD 7.1	F-32	35 – 36	ASLD	Please update this section to include the Arizona State Land Department. As a Cooperating Agency the Department would appreciate the opportunity to discuss acceptable reclamation success standards percentages as it relates to Arizona State Trust Land.
172.					
173.					

2396	Response to Comment
171	**Comments related to construction plans and specifications cannot be addressed prior to Project design and engineering. Comments regarding construction access and road reclamation described in the POD have been addressed and included in revisions to the Project description in Chapter 2 of the FEIS, the Preliminary POD, and the analysis of access conditions and potential ground disturbance has been appended to the FEIS, Appendix I.**

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OFFICE OF THE SECRETARY OF DEFENSE
WASHINGTON, DC 20301

19 NOV 2012

Mr. Michael Pool
Acting Director, Bureau of Land Management
U.S. Department of the Interior
1849 C Street, NW, Rm 5665
Washington, DC 20240

Dear Mr. Pool:

America's national security depends on our defense installations and facilities being in the right place with the right capabilities to provide war fighters with superior weapons systems and realistic training. White Sands Missile Range (WSMR) and the Buffalo Soldier Electronic Testing Range (BSETR) are unique DoD assets with sufficient land, airspace and capabilities for the test and evaluation of defense systems. If these assets are significantly degraded, they cannot be replicated elsewhere in the country. At the same time, the Department recognizes the significant national priority given to expansion of the United States bulk power transmission system. With respect to the SunZia Southwest Transmission Project Draft Environmental Impact Statement (DEIS), we are committed to working cooperatively with the Bureau of Land Management (BLM) and the applicant to identify a routing that also protects DoD equities.

The Department recognizes the significant efforts made by BLM to accommodate DoD's concerns associated with the routing of the SunZia project and its associated DEIS. In the spirit of continued cooperation, attached to this letter are a set of proposed mitigation options developed by the Department.

During our discussions at the Pentagon with DOI representatives on November 13, 2012, our Department's agreed to meet soon after Thanksgiving at WSMR to discuss mitigation measures. BLM agreed to arrange participation by SunZia representatives at this meeting. We are hopeful that we can develop a plan that will result in permitting of the project while preserving national security interests.

Sincerely,

John Conger
Acting Deputy Under Secretary of Defense
(Installations and Environment)

Attachment

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Attachment
Department of Defense
Mitigation Measures for the Sun Zia Southwest Transmission Project

White Sands Missile Range (WSMR), NM

WSMR is testing long-range threat detection systems essential for effective missile defense capability. BLM's Preferred Alternative Route bisects critical flight paths and sensor lanes. To effectively mitigate any adverse impact that the SunZia transmission line would have on WSMR requires burial of a portion of the line to allow low-level flight operations.

DoD proposes to partner with BLM to find alternatives that protect WSMR's northern range for future testing. This may include moving lines farther north; burying the lines along the preferred alternative or consideration of other alternative routes. Possible mitigation measures within the WSMR extension area include:

1 • Direct burial of the segments of the transmission line that enter the WSMR northern extension area/Restricted Airspace from the east and exit the area to proceed west, approximately 10 miles, depending on which route is selected;

2 • Agreement by the applicant, its successors and assigns, to accept all risks and liability should the transmission line be damaged or destroyed in the course of test events; and

3 • Development of an emergency repair and response plan, coordinated with and agreed to by DoD, to restore the transmission line in the event that it is damaged or destroyed during a test or training event.

4 The DoD would also be willing to develop alternative routes across WSMR that may shorten overall length of the transmission route, but increase the distance that would be buried.

Buffalo Soldier Electronic Test Range (BSETR) at Fort Huachuca, AZ

Fort Huachuca and Buffalo Soldier Electronic Test Range (BSETR) offers a quiet electronic environment for the testing of electronic sensors and communications equipment. A route north of the BSETR was discussed as the preferred DoD routing at the Arizona Cooperating Agency meeting on September 5, 2012, and in our prior correspondence. During these discussions, BLM acknowledged that the BLM Preferred Alternative Route described in the DEIS would bisect key test areas and committed to work with the applicant on ways to mitigate adverse effects of the SunZia transmission route. While this route would parallel an existing utility corridor, the Department has concerns about the impact of electromagnetic interference (EMI) on its test capability. The scope of such impact cannot be determined without more expansive studies and data collection than have been conducted to date.

At a minimum, DoD requires that the following mitigation measures be incorporated into the applicant's right-of-way agreement concerning the BSETR:

5 a. Prohibit connections of any type to the line on any portion of its route crossing BSETR and out to a distance of one mile from the range boundary. Such connections include substations, transformers and converter stations;

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1	Underground technology and feasibility was analyzed in the Draft EIS on pages 2-35 through 2-38 and Section 4.16. As indicated in the Draft EIS, technical constraints and concerns associated with burial of 10 miles of transmission make this measure unreasonable due to the magnitude of additional cost and that there are no known 500 kV underground operations at this time. The Applicant would not consider this proposed mitigation measure to be feasible.
2	DOD land-use and restrictions on acreage of this size would require a Congressional action in accordance with the Engle Act. To date, no such withdrawal has been performed with respect to the BLM-administered lands to be traversed by the SunZia Project in the Northern Call-up Area. Consequently, this proposed mitigation measure represents an unreasonable request for a restricted use of public lands under BLM's jurisdiction that are not under the exclusive surface use of the DOD. The Applicant would consider the terms and conditions of similar indemnification agreements currently in effect between DOD (or WSMR) and owner-operators of high voltage transmission facilities in the area.
3	Prior to construction the Applicant would prepare an emergency repair and response plan consistent with industry best maintenance and engineering practices, and as required by North American Reliability Council (NERC) compliance. DOD would receive a copy of this plan.
4	BLM has actively engaged with WSMR and DOD on the development of transmission line routing alternatives during the NEPA process for the Project. Previously, in response specifically to military input, the study area was expanded and routing alternatives were added and analyzed during the extended scoping period and in the Draft EIS. See also response to Comment No. 1 regarding burial of transmission lines.
5	As proposed, the portion of the SunZia preferred alternative located within the BSETR would consist solely of transmission lines and access, as needed, (i.e., no substations or other associated hardware are proposed within the BSETR). This portion of the area is predominantly Arizona State Trust and private land. In the future, SunZia cannot prohibit interconnection requests as such action would violate Federal laws administered by FERC. Consequently, neither the Applicant nor BLM can make a commitment to prohibit connections to the transmission line, including, but not limited to, substations, transformers, and converter stations. It is noted however that the existing Winchester 345/230kV substation is located within the BSETR and could allow for future interconnections.

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6 b. Micro-site the lines to shield BSETR test sites from Electromagnetic Effects (EME);

7 c. Utilize EMI reducing construction techniques and/or special construction to ensure minimal EME;

8 d. Cooperate with BSETR to measure and establish an EME "floor value," including the cumulative effects of multiple bulk power transmission lines;

9 e. Develop and implement an enhanced power line maintenance program to correct material conditions when EME is detected above the mutually agreeable "floor value;" and

10 f. Provide curtailment of power line operations during a specified period of time each year or as required by the BSETR or Fort Huachuca to implement short suspense critical testing, with total outage time and coordination measures to be developed in a balanced manner to meet both DoD and developer requirements.

2469	Response to Comment
6	The Applicant is proposing to use lattice steel structures that have greater (horizontal) phase spacing and triple-bundle conductors per phase (as opposed to the phase spacing and two-bundle conductors of the existing Tucson Electric Power's 345kV guyed-lattice steel tower transmission line). This design would serve to minimize electrical and magnetic field effects. Additional mitigation may be possible to address site-specific levels of EME where they can be quantified by BSETR.
7	The Applicant would cooperate with BSETR to understand the EME "floor value" consistent with the efforts of the existing multiple high voltage transmission lines currently traversing the BSETR.
8	Standard industry practices include minimization of EME including facility operations in a manner that minimizes radio and television interference.
9	The Applicant believes that this is an unprecedented type of request that is unreasonable because consumers (including facilities such as BSETR) expect constant, uninterrupted provision of electricity. Further, SunZia would be required to provide guaranteed transmission service to interconnecting generators.
10	The Applicant is proposing to use lattice steel structures that have greater (horizontal) phase spacing and triple-bundle conductors per phase (as opposed to the phase spacing and two-bundle conductors of the existing Tucson Electric Power's 345kV guyed-lattice steel tower transmission line). This design would serve to minimize electrical and magnetic field effects. Additional mitigation may be possible to address site-specific levels of EME where they can be quantified by BSETR.

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